

Written Q

1. Enumerate functions of interneuron ?
2. Def after discharge and its mechanism
3. Def rensow cell ?
4. Mention mechanism of recurrent inhibition ?
5. Def crossed extensor reflex ?
6. Enumerate properties of polysynaptic reflex ?
7. Def and mechanism of irradiation ?
8. Def and mechanism of recruitment ?
9. Compare () reflex and motor tetanus as regard stimulation , latent period , contraction , relaxation ?

Formative MCQ

<p>1. A reflex arc includes:</p> <ul style="list-style-type: none">a) at least two sets of sequential neuronsb) at least two sequential sets of central synapsesc) at least two types of sensory receptorsd) at least two types of efferent neurons	A
<p>2. Spatial summation of EPSP is helped by:</p> <ul style="list-style-type: none">a) Parallel circuits.b) Divergence.c) Convergence.d) Lateral inhibition.e) Feedback inhibition	C

<p>3. Divergence in the neural pool explains:</p> <ul style="list-style-type: none"> a) <i>temporal summation.</i> b) <i>spatial summation.</i> c) <i>spread of stimulus.</i> d) <i>lateral inhibition.</i> e) <i>feedback inhibition.</i> 	<p>C</p>
<p>4. After discharge is caused by:</p> <ul style="list-style-type: none"> a) <i>projection mechanism.</i> b) <i>fasciculation along the pathway.</i> c) <i>lateral inhibition.</i> d) <i>reverberating circuits.</i> e) <i>none of the above.</i> 	<p>D</p>
<p>5. After discharge:</p> <ul style="list-style-type: none"> a) <i>can be caused by lateral inhibition.</i> b) <i>can be caused by parallel circuits.</i> c) <i>is due to presence of Renshaw cells.</i> d) <i>leads to spread of the stimulus.</i> e) <i>none of the above.</i> 	<p>B</p>
<p>6. Parallel circuit is a mechanism for:</p> <ul style="list-style-type: none"> a) <i>pain inhibition.</i> b) <i>hyperalgesia.</i> c) <i>referred pain.</i> d) <i>after discharge.</i> e) <i>temporal summation.</i> 	<p>D</p>

<p>7. Withdrawal reflex are not:</p> <ul style="list-style-type: none"> a) <i>Initiated by nociceptive stimuli.</i> b) <i>Prepotent.</i> c) <i>Prolonged if the stimulus is strong.</i> d) <i>An example of a flexor reflex.</i> e) <i>Accompanied by the same response on both sides of the body.</i> 	E
<p>8. The phenomenon of reciprocal innervation:</p> <ul style="list-style-type: none"> a) <i>Is mediated through monosynaptic pathways.</i> b) <i>Occurs during the positive supporting reaction.</i> c) <i>Occurs in both limbs during presence of a nociceptive reflex in one limb</i> d) <i>Causes inhibition of the antagonistic muscles only after contraction of the agonist muscles is over.</i> 	C
<p>9. Concerning the withdrawal reflexes:</p> <ul style="list-style-type: none"> a) <i>They are the only polysynaptic reflexes in the body.</i> b) <i>They are often associated with the crossed extensor reflex.</i> c) <i>They are supportive reflexes.</i> d) <i>They show neither after discharge nor reciprocal innervation.</i> e) <i>Their afferent neurons belong to A alpha nerve fibres.</i> 	B

Other MCQ

<p>1. Reflex actions could be classified according to:</p> <ul style="list-style-type: none">a) the type of sensory receptors initiating themb) the type of afferent nerves mediating themc) the type of efferent nerves mediating themd) the type of neurotransmitters mediating them	C
<p>2. The central terminals of afferent neurons mediating spinal reflexes are distributed within the Spinal cord so that:</p> <ul style="list-style-type: none">a) all of them terminate in the same spinal segment of their entry to the cordb) all of them terminate on interneuronsc) all of them sub-serve spinal reflexesd) they provide pathways for divergence of incoming sensory impulses	D
<p>3. The divergence function of interneurons is involved in:</p> <ul style="list-style-type: none">a) temporal summationb) spatial summationc) reverberationd) irradiation	D
<p>4. Interneurons after-discharge circuits prolong duration of:</p> <ul style="list-style-type: none">a) sensory input to the spinal motor centersb) synaptic delay in central synapsesc) discharge of efferent neuronsd) conscious perception of the evoked sensation	C

<p>5. The ability of stronger stimuli to produce wider range of reflex responses depends upon:</p> <ul style="list-style-type: none"> a) presence of reverberating circuits in reflex pathway b) presence of parallel chain circuits in reflex pathway c) convergence of interneurons d) divergence of interneurons 	D
<p>6. The after discharge in a neuronal pool is based mainly up on the:</p> <ul style="list-style-type: none"> a) After discharge of individual neurons b) Reverberating and parallel interneuron circuits (interneuron barrage) c) Converging and diverging circuits d) Occlusion e) All of the above 	B
<p>7. The axons of spinal motor neurons (anterior horn cells):</p> <ul style="list-style-type: none"> a) Have no collaterals b) Give collaterals that directly facilitate the adjacent motor neurons. c) Give collaterals that directly inhibit the adjacent motor neurons. d) Give collaterals that inhibit the same and adjacent motor neurons through intermediary cells 	D
<p>8. About recurrent inhibition all the following is true except:</p> <ul style="list-style-type: none"> a) It is also called Renshaw inhibition b) A collateral from an alpha motor neuron synapse with an inhibitory interneuron Called rensaw cell c) It plays a role in the localization of responses. d) The rensaw cell releases glycine e) GABA is the transmitter released from the recurrent collateral of the motor axon 	E

<p>9. After-discharge of reflex responses:</p> <ul style="list-style-type: none"> a) increase the magnitude of the reflex responses b) delays the onset of fatigue of reflex responses c) involves interneuron circuits d) depends upon spatial summation 	C
<p>10. The Renshaw cell:</p> <ul style="list-style-type: none"> a) Interneurons present in the dorsal horns of the spinal cord b) Excited through release of glycine. c) Excitatory neurons that release GABA d) Inhibitory interneurons present in the ventral horns of the spinal cord. 	D
<p>11. Recurrent inhibition involves:</p> <ul style="list-style-type: none"> a) A monosynaptic reflex arc b) An axo-axonic synapse c) Reduction of a presynaptic transmitter d) Excitation of Renshaw cells e) None of the above 	D
<p>12. The crossed extensor reflex:</p> <ul style="list-style-type: none"> a) Has a central delay of 5m.sc. b) Shows the phenomenon of reciprocal innervations. c) Does not show after discharge. d) Is a monosynaptic spinal reflex. e) Is a deep spinal reflex. 	B
<p>13. Recruitment of a reflex response is due to:</p> <ul style="list-style-type: none"> a) difference in the amount of pre-synaptic inputs to the various efferent neurons initiating the reflex b) difference in conduction velocity of afferent neurons mediating reflex c) delay at the neuromuscular junction d) presence of inhibitory interneurons in the reflex pathway 	A

<p>14. Which of the following reflexes best describes incoming pain signals that elicit movements performed by antagonistic muscle groups on either side of the body?</p> <p>A) Crossed extensor reflex B) Withdrawal reflex C) Reciprocal inhibition D) Autogenic inhibition</p>	A
<p>15. The withdrawal reflex is initiated by stimulation delivered to which of the following receptors?</p> <p>a) Muscle spindle. b) Joint capsule receptor. c) Cutaneous free nerve ending. d) Golgi tendon organ. e) Pacinian corpuscle.</p>	C
<p>16. About reverberating circuits which of the following is true:</p> <p>a) Is a mechanism for reciprocal innervations. b) Leads to feedback stimulation. c) Is a mechanism for after discharge in withdrawal reflex. d) Means that the afferent is connected to the efferent through multiple pathways. e) Produce lateral inhibition.</p>	B
<p>17. A flexor withdrawal reflex shows all the following properties, except:</p> <p>a) recruitment b) pre-potent c) non-fatigable d) irradiation</p>	C

<p>18. Central delay of reflex actions:</p> <ul style="list-style-type: none"> a) <i>is due to presence of inhibitory interneurons in the reflex pathway</i> b) <i>is the time between stimulation of receptors and response of the effector muscle</i> c) <i>is longer in the flexor reflex than in the stretch reflex</i> a) <i>is determined by the velocity of conduction of impulses along the afferent and efferent neurons in the reflex pathway</i> 	<p>C</p>
<p>19. The flexor withdrawal reflex:</p> <ul style="list-style-type: none"> a) <i>Does not occur if the spinal cord is separated from the higher centers.</i> b) <i>Is monosynaptic & anti-gravitational (supports the body against gravity).</i> c) <i>Is more rapid than the myotatic (stretch) reflex and shows no fatigue</i> d) <i>Shows a characteristically long after discharge</i> e) <i>During it the antagonists of the flexor muscles contract to produce compensatory extension</i> 	<p>D</p>
<p>20. Compared with reflex tetanus, the motor tetanus:</p> <ul style="list-style-type: none"> a) <i>Is due to stimulation of the afferent neuron.</i> b) <i>Has longer duration.</i> c) <i>Has gradual increase in tension.</i> d) <i>Has sudden relaxation.</i> 	<p>D</p>

<p>21. Concerning the positive supporting reaction:</p> <ul style="list-style-type: none">a) <i>it normally acting during recumbency</i>b) <i>The high centers in the CNS play an essential role.</i>c) <i>A tactile stimulus to the foot leads to contraction of both the flexor and extensor muscles in the lower limb.</i>d) <i>It is an example of reciprocal innervation</i>	C
<p>22. The basic reflex of posture is the:</p> <ul style="list-style-type: none">a) <i>Flexor reflex</i>b) <i>Crossed extensor reflex</i>c) <i>Golgi tendon reflex (inverse stretch reflex)</i>d) <i>Negative stretch reflex</i>e) <i>Positive supporting reaction reflex</i>	E