

1. Which of the following muscles inserts via the calcaneal tendon'?

- A. semitendinosus
- B. sartorius
- C. tibialis anterior
- D. gastrocnemius

2. Which of the following statements is TRUE?

- A. Cerebrospinal fluid is secreted by the arachnoid villi.
- B. The brainstem consists of the pons, medulla and cerebellum.
- C. Meningitis is the most accurate term for inflammation of neurons.
- D. The primary motor area of the cerebral cortex is located in the postcentral gyrus.
- E. The primary visual cortex contains a map of visual space.

3. The names of muscles often indicate the action of the muscle. What does the term levator mean?

- A. The muscle flexes and rotates a region.
- B. The muscle is a fixator and stabilizes a bone or joint.
- C. The muscle elevates a region.
- D. The muscle functions as a synergist.

4. As a result of the brain injury suffered by Kevin Chappell in the article I assigned to you to read, Kevin:

- A. has difficulty recognizing his children
- B. can read only by tracing each letter first
- C. is unable to draw what he sees
- D. cannot understand words when hearing them
- E. has very poor short-term memory

5. White matter of the nervous system is composed of:

- A. aggregations of myelinated axons
- B. aggregations of neuron cell bodies
- C. aggregations of nuclei of cell bodies
- D. aggregations of ganglia
- E. none of the above

6. Which of the following statements is TRUE?

- A. The corpora quadrigemina superior colliculi are auditory reflex centres.
- B. The optic cranial nerve is a mixed nerve.
- C. A first-order neuron extends from the sensory receptor to the central nervous system.
- D. In the nervous system, the term nucleus means a collection of nerve cells outside the CNS.
- E. The canal connecting the third and fourth ventricles and running through the midbrain is the foramen of Monro.

7. The names of the muscles can indicate all of the following EXCEPT:

- A. structural characteristics of the muscle
- B. fat content of the muscle**
- C. direction of the muscle relative to the long axis of the body
- D. action of the muscle
- E. region of the body where the muscle is inserted

8. Which of the following statements is/are TRUE?

- A. The left cerebral hemisphere is usually dominant for language and math.
- B. The primary visual cortex contains a map of visual space.
- C. Brodmann numbers refers to the dimensions of CNS neurons.
- D. Meningitis is the most accurate term for inflammation of neurons.
- E. A) and B)**

9. Ridges of tissue on the surface of the cerebral hemispheres are called

- A. gyri**
- B. sulci
- C. fissures
- D. ganglia

10. The area of the cortex that is responsible for sensations of the full bladder and the feeling that your lungs will burst when you hold your breath too long is the

- A. olfactory cortex
- B. gustatory cortex
- C. vestibular cortex
- D. visceral sensory area**

11. Which of the following statements concerning the prefrontal cortex is FALSE?

- A. it is a complicated region associated with complex learning
- B. its development is very dependent on positive and negative feedback from the environment
- C. it is involved with the development of judgment, reasoning and conscience
- D. it is not fully mature in children
- E. it occupies the posterior portion of the frontal lobe**

12. Cell bodies of the sensory neurons of the spinal nerves are located in

- A. the dorsal root ganglia of the spinal cord**
- B. the ventral root ganglia of the spinal cord
- C. the thalamus
- D. sympathetic ganglia

13. Which of the following does not compress the abdomen?

- A. internal oblique
- B. external oblique
- C. transverse abdominis
- D. coccygeus**

14. A cute, little curly-haired child is sitting behind you in church. You turn around for a moment and she sticks her tongue out at you. Which tongue muscle did she use?

- A. orbicularis oris
- B. stylohyoid
- C. hyoglossus
- D. genioglossus**

15. The musculocutaneous nerve innervates which of the following muscles?

- A. rectus femoris
- B. biceps brachii**
- C. pectoralis major
- D. gastrocnemius
- E. levator scapulae

16. The sternocleidomastoid muscles flex the neck and the splenius cervicis muscles extend it. What is the relationship between these muscles when bowing your head to look at your toes?

- A. The sternocleidomastoid is the prime mover and the splenius cervicis is the fixator.
- B. The sternocleidomastoid is the prime mover and the splenius cervicis is the synergist.
- C. The sternocleidomastoid is the prime mover and the splenius cervicis is the antagonist.**
- D. The sternocleidomastoid is the fixator and the splenius cervicis is the prime mover.
- E. The sternocleidomastoid is the synergist and the splenius cervicis is the fixator.

17. The pectoralis major muscle:

- A. abducts the humerus
- B. adducts the humerus .**
- C. retracts the scapula
- D. protracts the scapula
- E. rotates the radius

18. The function of a choroid plexus is to:

- A. receive sensations from the visceral organs
- B. send motor impulses to the diaphragm
- C. transmit impulses from one cerebral hemisphere to the other
- D. produce cerebrospinal fluid**
- E. reabsorb cerebrospinal fluid

19. Paralysis of which of the following muscles would make an individual unable to flex the knee?

- A. hamstring muscles**
- B. gluteal muscles
- C. brachioradialis
- D. soleus

20. Damage to the cerebellum would result in:

- A. loss of memory
- B. uncoordinated movement**
- C. inability to dream
- D. altered pituitary function
- E. inability to control body temperature

21. The outermost layer of the meninges is the:

- A. pia mater
- B. arachnoid mater
- C. choroid plexus
- D. dura mater**
- E. ependyma

22. Cerebrospinal fluid in the ventricular space of the brain turns over:

- A. about once a week
- B. about once a day
- C. about once every 8 hours**
- D. about once an hour
- E. about once every 6 minutes

23. Broca's area:

- A. is found in the occipital lobe
- B. is usually found in the right hemisphere
- C. is considered a motor speech area**
- D. is involved in spatial discrimination during somatosensory reception
- E. A) and C)

24. Which of the following is the strongest forearm flexor?

- A. deltoid
- B. brachioradialis
- C. triceps brachii
- D. brachialis**
- E. biceps brachii

25. Which group of muscles flexes and rotates the neck?

- A. the scalenes**
- B. the iliocostalis
- C. the spinalis
- D. the splenius

26. Paralysis of which of the following would make an individual unable to flex the thigh?

- A. biceps
- B. soleus
- C. vastus medialis
- D. iliopsoas and rectus femoris**
- E. none of the above

27. A patient who received a blow to the side of the skull is now unable to close his eye and the corner of his mouth droops. Which cranial nerve has been damaged?

- A. facial**
- B. glossopharyngeal
- C. hypoglossal
- D. vagus

28. The subarachnoid space lies between what two layers of meninges?

- A. arachnoid and epidura
- B. arachnoid and pia**
- C. arachnoid and dura
- D. dura and epidura

29. Which plexus supplies the skin and muscles of the shoulders and upper extremities?

- A. brachial**
- B. cervical
- C. coccygeal
- D. lumbar

30. When the term biceps, triceps or quadriceps forms part of muscle's name, you can assume that:

- A. the muscle has two, three, or four origins, respectively**
- B. the muscle is able to change direction twice, three times, or four times faster than other muscles, respectively.
- C. the muscle has two, three, or four functions, respectively.
- D. the muscle has two, three, or four insertions, respectively.
- E. the muscle is composed of two, three or four fascicles, respectively.

31. The thalamus does all of the following EXCEPT:

- A. serves as a major sensory relay station
- B. serves as the gateway to the cortex
- C. contributes to motor functions
- D. gives precise location information for sensations of pain and touch**
- E. communicates with the hypothalamus

32. The part of the spinal nerve that contains only efferent fibers is the:

- A. dorsal root
- B. ventral root**
- C. dorsal ramus
- D. ventral ramus
- E. plexus

33. Spinal nerves are considered mixed, which means that:

- A. they contain both nerves and tracts
- C. they contain both gray and white matter
- C. they contain both afferent and efferent nerves**
- D. they use multiple types of neurotransmitters
- E. a single nerve arises from multiple segments of the spinal cord

34. In flexing the forearm at the elbow, the:

- A. biceps brachii and brachialis act as prime movers
- B. triceps brachii acts as antagonist
- C. brachioradialis acts as antagonist
- D. a) and b)**

35. Loss of the ability to perform skilled motor activities such as piano playing, with no paralysis or weakness in specific muscles, might suggest damage to the:

- A. spinal cord
- B. premotor cortex**
- C. primary motor cortex
- D. Broca's area

36. Which of the following structures is NOT associated with the diencephalon?

- A. epithalamus
- B. thalamus
- C. third ventricle
- D. hypothalamus
- E. lentiform nucleus**

37. Adductor magnus, adductor longus and gracilis are muscles that are associated with the:

- A. lateral thigh
- B. medial thigh**
- C. anterior thigh
- D. posterior thigh

38. The cranial nerve with a dual origin (brain and spinal cord) is the:

- A. hypoglossal
- B. accessory**
- C. vagus
- D. glossopharyngeal

39. The deltoid muscle can produce all of the following movements at the shoulder joint EXCEPT:

- A. abduction
- B. flexion
- C. adduction
- D. extension

40. The function of commissures is to connect:

- A. adjacent areas of gray matter within a cerebral hemisphere
- B. corresponding areas of the two cerebral hemispheres
- C. areas of cortex with regions of the spinal cord
- D. pyramidal cells with corresponding cerebellar cells .

41. The discrete correlation of body regions to CNS structures is:

- A. spatial discrimination
- B. somatotopy
- C. lateralization
- D. cephalization

42. Ciliated CNS neuroglia that play an active role in moving the cerebrospinal fluid are:

- A. ependymal cells
- B. Schwann cells
- C. oligodendrocytes
- D. astrocytes
- E. microglia

For Questions 43-47, indicate whether each of the following statements is TRUE (T) or FALSE (F) in the space provided.

- 43. The sternohyoid muscle is named after its shape. FALSE
- 44. The occipitalis muscle anchors the scalp posteriorly. TRUE
- 45. The pelvic floor muscle that constricts the urethra is the urogenital diaphragm. TRUE
- 46. The chewing muscle covering the ramus of the mandible is the buccinators FALSE
- 47. Movements of the thigh are accomplished by muscles anchored to the pelvic girdle. TRUE