

## Banich/Compton Test bank

### Chapter 1 Introduction to the Nervous System

1. Neurons carry information from one place to another using what kind of signals?  
A: Electrical only  
**B: Electrical and chemical**  
C: Electrical and pressure  
D: Chemical only
2. Which of these is not a role played by glia?  
**A: Creation of new neurons**  
B: Removal of dead neurons  
C: Influencing communication between neurons  
D: Maintaining the blood-brain barrier
3. Which of these correctly lists the parts of the human nervous system  
A: The brain, spinal cord, skin and nerves  
B: The brain, spinal cord, nerves and muscles  
**C: The brain, spinal cord, nerves and ganglia**  
D: The brain, muscles, nerves and ganglia
4. The anterior of the brain is at the:  
A: Top  
**B: Front**  
C: Back  
D: Bottom
5. The inferior of the brain is at the:  
**A: Bottom**  
B: Back  
C: Top  
D: Front
6. Which of these statements is correct?  
A: Areas in the middle are called lateral and areas towards the outside are called medial  
B: Areas in the middle are called dorsal and areas towards the outside are called ventral  
C: Areas in the middle are called rostral and areas towards the outside are called caudal  
**D: Areas in the middle are called medial and areas towards the outside are called lateral**
7. Regions referred to as caudal are where in the brain?  
A: Towards the top  
B: Towards the front  
**C: Towards the back**  
D: Towards the bottom
8. Dorsal has a similar meaning to:  
**A: Superior**  
B: Ventral

C: Inferior  
D: Medial

9. Which of the following pair of terms means the opposite side and the same side of the brain?

- A: Unilateral and bilateral
- B: Contralateral and ipsilateral**
- C: Proximal and distal
- D: Ipsilateral and unilateral

10. What is the role of the skull and spinal column?

- A: Nutrition for neurons
- B: To receive signals from neurons
- C: To send signals to neurons
- D: Protection of neurons**

11. Which two of the following four roles are carried out by the cerebrospinal fluid?

- A: Protection and cushioning of the brain**
- B: Produces enzymes
- C: Synthesizes neurotransmitters
- D: Allows nutrients from the blood to reach nerve cells**

12. Cells in the dorsal section of the spinal cord:

- A: Convey motor commands to muscles
- B: Receive input from the brain
- C: Receive sensory information**
- D: Receive input from other regions of the spinal cord

13. What structure is located directly superior to the spinal cord?

- A: Pons
- B: Cerebellum
- C: Midbrain
- D: Medulla**

14. How many cranial nerves are there?

- A: 12**
- B: 10
- C: 8
- D: 9

15. Which two of the following four functions below are controlled by the medulla?

- A: Respiration**
- B: Appetite
- C: Temperature
- D: Heart rate**

16. Where is the cerebellum located?

- A: Posterior to the medulla**
- B: Anterior to the medulla
- C: Posterior to the spinal cord
- D: Anterior to the spinal cord

17. Which one of the mental functions below is not affected by damage to the cerebellum?

A: Balance

B: Fluidity of movement

**C: Force of movement**

D: Timing of movements

18. What structure connects the rest of the brain to the cerebellum and most of the cranial nerves to the brain?

**A: Pons**

B: Midbrain

C: Medulla

D: Thalamus

19. Which two of the following four describe roles of the midbrain?

**A: Sound localization**

B: Controlling eating and drinking

C: Secreting hormones

**D: Perceiving large moving objects in the periphery**

20. The medulla, pons and midbrain are part of what structure?

A: The spinal column

**B: The brainstem**

C: The limbic system

D: Basal ganglia

21. Which two of the following four statements below are correct?

**A: The inferior colliculus is a relay point for auditory information as it travels from the ear to the cortex**

**B: The superior colliculus allows us to perceive and orient toward large moving objects in the periphery**

C: The superior colliculus is a relay point for auditory information as it travels from the ear to the cortex

D: The inferior colliculus is a relay point for visual information as it travels from the eye to the medulla

22. The role of which structure can be summarised as follows: 'Controls behaviors that help the body satisfy its needs so it can maintain equilibrium (**homeostasis**)'

A: Cerebral cortex

B: Brainstem

C: Medulla

**D: Hypothalamus**

23. Which structure below is not part of the limbic system?

**A: Cerebellum**

B: Hypothalamus

C: Amygdala

D: Anterior thalamus

24. Which structure in the cerebral cortex separates each hemisphere of the brain in the dorsal-ventral dimension?

A: The central fissure

**B: The Sylvian fissure**

C: The longitudinal fissure

D: The cerebral fissure

25. The region directly behind the central fissure but above the Sylvian fissure is:

A: The frontal lobe

**B: The parietal lobe**

C: The temporal lobe

D: The occipital lobe

26. The area below the Sylvian fissure is:

**A: The temporal lobe**

B: The frontal lobe

C: The occipital lobe

D: The parietal lobe

27. What is the resting potential of a neuron?

A: - 50mV

B: - 85mV

C: - 55mV

**D: - 70mV**

28. What voltage is required for a cell to 'fire'?

**A: - 55mV**

B: - 45mV

C: - 75mV

D: - 70mV

29. Which is the following correct sequence of events in an action potential?

A: Hyperpolarization, depolarization, repolarization

**B: Depolarization, repolarization, hyperpolarization**

C: Depolarization, hyperpolarization, repolarization

D: Repolarization, depolarization, hyperpolarization

30. Which following statement about amino acid neurotransmitters is correct?

**A: Glutamate has an excitatory effect and GABA has an inhibitory effect**

B: Both glutamate and GABA have an excitatory effect

C: Both glutamate and GABA have an inhibitory effect

D: GABA has an excitatory effect and glutamate has an inhibitory effect

31. Which neurotransmitter system affects sleep, mood, sexual behaviour, eating and memory?

A: Dopaminergic system

B: Cholinergic system

**C: Serotonergic system**

D: Noradrenergic system

32. Which one of the statements below is correct?

A: The smaller the myelin sheath, the more erratic the speed with which the electrical signal is propagated down the axon

B: The smaller the myelin sheath, the less erratic the speed with which the electrical signal is propagated down the axon

C: The larger the myelin sheath, the slower the speed with which the electrical signal is propagated down the axon

**D: The larger the myelin sheath, the faster the speed with which the electrical signal is propagated down the axon**

33. Which one of the following statements is true regarding the primary motor cortex

A: It is organized so that the larger the size of a portion of the body, the larger is the amount of tissue in motor cortex devoted to that region

**B: The final exit point for neurons responsible for fine motor control of the body's muscles**

C: It is organized so that the regions that control motor movements for the top of the body (i.e., the head) are located dorsally and regions at the bottom of the body (i.e., the foot) are located ventrally

D: Damage to this region causes difficulty in gait and balance.

34. Damage to which area can result in **alexia** (inability to read) and **agraphia** (inability to write)?

A: Frontal lobe

**B: Parietal lobe**

C: Temporal lobe

D: Occipital lobe

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## Chapter 2 Historical perspectives

1. The concept that the brain is composed of different subsystems (or modules), located in specific regions of brain tissue is known as:  
A: Lateralization of function  
**B: Localization of function**  
C: Lateralization of structure  
D: Localization of structure
2. Who introduced the idea of localization of function?  
A: Galen  
B: Sperry  
C: Milner  
**D: Broca**
3. The method that allows scientists to make inferences about what function a brain region performs from observing what behaviors are compromised or absent after damage to that region is known as:  
A: Electrophysiological method  
B: Physiological method  
**C: Lesion method**  
D: Observation method
4. Scientists made many important linkages between the brain and behavior in their interactions with many veterans of the two World Wars, especially those who had sustained missile wounds. What technique did they use to show damaged areas of the skull?  
A: Surgery  
**B: X-rays**  
C: Electroencephalography  
D: Computerized Axial Tomography (CAT, or CT)
5. Which case study approach allows researchers to determine the variability across individuals as well as the degree to which the overall group average typifies the behaviour of individuals in the group?  
A: Single-case study  
B: Independent case study  
C: Group case study  
**D: Multiple-case study**
6. A double dissociation occurs when...  
**A: one brain lesion causes a disruption in Function A but not Function B, whereas a different lesion causes a disruption in Function B but not Function A**  
B: one brain lesion causes disruptions in Function A and Function B  
C: two brain lesions cause disruptions in the same function  
D: one brain lesion causes a disruption in Function A but not Function B, whereas a different lesion causes a disruption in Function A and Function B