Study Sheet for Brain and Autonomic Nervous System

1. Define or explain the following -

a. Decussation -

b. Apneustic center -

c. Choroid Plexus-

d. Superior Colliculi-

e. Central Sulcus-

f. Longitudinal Fissure-

2. Name 4 FUNCTIONS of the Hypothalamus.

1. 3.

2. 4.

3. Give the location for each of the following.

a. cardiovascular center – f. origin of cranial nerve #3-

b. mamillary bodies – g. pineal gland -

c. pneumotaxic area – h. origin of cranial nerve #9-

d. inferior colliculi-

e. decussation of pyramids -

4.Name the 4 lobes of the Cerebrum

a. c.

b. d.

5. Tell the primary functions of the following.

a. cerebellum - d. thalamus -

b. limbic system - e. reticular activating system -

c. corpus callosum f. cerebral aqueduct-

6. Name and Describe 3 different kinds of normal brain waves discussed in class.

a. b. c.

7. The superior colliculi are a part of this region of the brain:

a. diencephalon c. midbrain

b. hypothalamus d. pons

8 Damage to the cerebellum would result in:

a. altered pituitary function c. uncontrolled body temperature

b. paralysis of the legs d. uncoordinated movement

9. The cavities in the Cerebrum of the brain are called \_\_\_\_\_\_\_\_\_. These cavities are filled with

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

10. What is the function of the Arachnoid Villi?

11. A sudden noise occurs behind you and you turn around in response. This reflex is the responsibility of this specific structure in the brain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. This structure is located in specific part of the brain. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. A collection of neuron cell bodies in the CNS is called a \_\_\_\_\_\_\_\_\_\_\_\_\_whereas in the PNS it is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

13. The “ridges” observed on the surface of the cerebrum are called \_\_\_\_\_\_\_\_ whereas the “valleys” that separate lobes of the cerebrum are called \_\_\_\_\_\_\_\_\_\_\_\_\_.

14. The 3 major parts or regions of the brainstem are the:

a. b. c.

15.Tell the location of the following -

* 1. The thalamus -
  2. the pneumotaxic and apneustic center –
  3. the mammillary bodies –
  4. the primary somatosensory area –

16. The region in front of the central sulcus is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

17. Name 2 “vital centers” located in the medulla. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

18. What is the function of the Corpus Callosum?

18. The part of the brain that regulates posture and coordinates muscle action is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

19. The pneumotaxic and apneustic centers of the brain are involved in –

20. The pineal gland secretes the hormone \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that functions to help us \_\_\_\_\_\_\_\_\_\_\_.

21. To which part of the Nervous System does the Autonomic System belong?

Name the 2 subdivision of the ANS – a. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and b.\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What kinds of muscle does the Autonomic System activate? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name the neurotransmitter found at synapses within the Autonomic system.

Name the neurotransmitter released at the Neuromuscular Junction in the Sympathetic branch.

Name the neurotransmitter released at the NMJ in the parasympathetic branch -

22. Where do you find nicotinic receptors (dendrite/cell body of a neuron OR receptor on an

effector)? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. To what neurotransmitter do they respond? \_\_\_\_\_\_\_\_\_\_\_\_

Is the response excitatory or inhibitory? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-

23. Most sweat glands are innervated by the \_\_\_\_\_\_\_\_\_\_\_\_ branch of the ANS. Accordingly,

sweat glands contain \_\_\_\_\_\_\_\_\_\_\_\_\_ receptors that respond to the neurotransmitter\_\_\_\_\_\_

24. Neurons belonging to the Sympathetic branch of the ANS that innervate the heart begin in

the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and run to ganglia \_\_\_\_\_\_\_\_\_ to the spinal cord. Therefore, the

pre-ganglionic neuron is \_\_\_\_\_\_\_ while the postganglionic neuron is \_\_\_\_\_\_\_\_\_\_. The

neurotransmitter \_\_\_\_\_\_\_\_ is given off by the postganglionic neuron and stimulates

\_\_\_\_\_\_\_\_\_\_\_\_ receptors located on \_\_\_\_\_\_\_\_ muscle of the heart. This neurotransmitter

causes an \_\_\_\_\_\_\_\_\_ in heart rate and an increase in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

25. Tell whether the Sympathetic or Parasympathertic produces each of the following effects -

a. release of norepinephrine from the adrenal medulla –

b. contraction of the muscles of the urinary bladder –

c. glycogenolysis (conversion of glycogen to glucose) –

d. dilation of the respiratory airways –

26. Alpha and Beta are different kinds of \_\_\_\_\_\_\_\_\_\_\_\_ receptors, meaning they are part of the

\_\_\_\_\_\_\_\_\_\_\_\_ branch of the ANS. In general activation of Alpha and Beta 1 receptors causes \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the effector while activation of Alpha 2 and Beta 2 receptors causes \_\_\_\_\_\_\_\_\_\_\_\_ of the effector.

27. Complete the table for each of the following description or function.

Name of Area Lobe of Cerebrum

controls voluntary movements -

receives and interprets sensations from the skin-

interprets the MEANING of speech -

stores memories of past sensory experiences -

the center for INTERPRETING information from the eyes -

center for judgment, mood, personality, and conscience-

responsible for the articulation of speech-

28. Tell the structure of a choroid plexus and tell its function.

29. Are the Basal Ganglia white or gray matter? What functions do they perform/

30. What is the function of the Limbic System and the Reticular Activating system/?