

# PSYCH 260 Quiz 2

October 2, 2017

Answer the questions using the Scantron form.

Name: \_\_\_\_\_

## 1 Main

1. The \_\_\_\_\_ in the midbrain tegmentum contains neurons that release \_\_\_\_\_ via a projection to the basal ganglia.
  - A. striatum; oxytocin
  - B. superior colliculus; glutamate
  - C. raphe nucleus; glycine
  - D. substantia nigra; dopamine**
2. A reuptake inhibitor has what effect on neurotransmitters?
  - A. Reduces extracellular levels.
  - B. Accelerates their reuptake.
  - C. Increases extracellular levels.**
  - D. Causes neurotransmitters to bind to ionotropic receptors.
3. Botulinum toxin (BoTox) causes paralysis by impeding the normal function of which muscle-related neurotransmitter system?
  - A. Glutamate
  - B. GABA
  - C. Dopamine
  - D. Acetylcholine**
4. \_\_\_\_\_ is the most commonly released *inhibitory* neurotransmitter in the CNS. It typically binds to a/an \_\_\_\_\_ receptor.
  - A. GABA; ionotropic**
  - B. ACh; metabotropic
  - C. Glutamate; ionotropic
  - D. Dopamine; metabotropic
5. Which of these hormones is released by the *posterior* pituitary?
  - A. Oxytocin.**
  - B. Cortisol.
  - C. Melatonin.
  - D. Adrenocorticotrophic hormone (ACTH).
6. The neuron's resting membrane potential is somewhat more \_\_\_\_\_ than the equilibrium potential for  $K^+$  (given the typical values for  $[K^+]_{inside} > [K^+]_{outside}$ ), and as a result \_\_\_\_\_ ions flow out.
  - A. positive;  $K^+$**
  - B. positive;  $Cl^-$
  - C. negative;  $Na^+$
  - D. negative;  $Ca^{++}$

7. \_\_\_\_\_ receptors contain both chemical (ligand) binding sites and an ion channel.
- A. Metabotropic
  - B. Serotonin
  - C. Glutamate
  - D. Ionotropic**
8. The *inward* flow of \_\_\_\_\_ across the postsynaptic membrane caused by activation of an AMPA receptor creates an \_\_\_\_\_.
- A.  $Cl^-$ ; EPSP
  - B.  $K^+$ ; IPSP
  - C. Glutamate; IPSP
  - D.  $Na^+$ ; EPSP**
9. This structure lies in the medial portion of the brainstem adjacent to the 3rd ventricle, and it controls the endocrine system via the pituitary gland.
- A. hippocampus
  - B. amygdala
  - C. hypothalamus**
  - D. caudate nucleus
10. When the action potential arrives at the axon terminal, \_\_\_\_\_ open and the influx of \_\_\_\_\_ triggers exocytosis.
- A. voltage-gated  $Na^+$  channels;  $Na^+$
  - B. voltage-gated  $Ca^{++}$  channels;  $Ca^{++}$**
  - C. metabotropic channels;  $K^+$
  - D. transporters;  $Ca^{++}$

## 2 Bonus

11. With one exception, the monoamine neurotransmitters bind to \_\_\_\_\_ receptors.
- A. ionotropic
  - B. voltage-gated
  - C. nicotinic
  - D. metabotropic**
12. You are examining an axosomatic synapse and based on where it connects guess that it is \_\_\_\_\_ and involves the release of \_\_\_\_\_.
- A. inhibitory; glutamate
  - B. inhibitory; GABA**
  - C. excitatory; adenosine
  - D. excitatory; glycine