

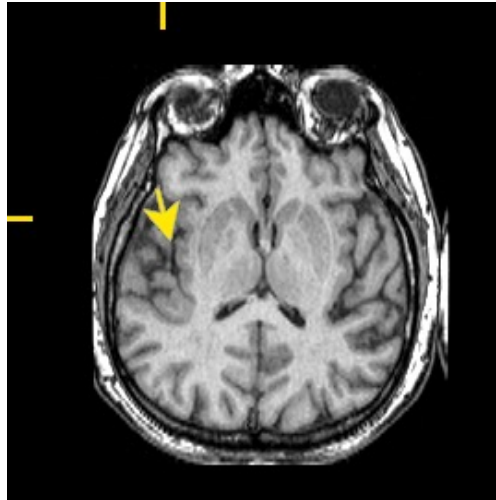
PSYCH 260 Quiz 1

January 27, 2017

Answer the questions using the Scantron form.

Name: _____

1 Main - 10 pts



1. The image illustrates what type of slice?
 - A. Sagittal.
 - B. Horizontal.**
 - C. Coronal.
 - D. Caudal.
2. All of the following structures can be seen in the figure EXCEPT
 - A. Corpus callosum.
 - B. Gray matter.
 - C. 4th ventricle.**
 - D. Cerebral cortex.
3. The figure illustrates the use of _____magnetic resonance imaging (MRI), a technique with _____spatial resolution.
 - A. functional; fair ($\sim 3+$ mm).
 - B. structural; good (~ 1 mm).**
 - C. neural; excellent (~ 1 micron).
 - D. diffusion tensor; poor (~ 1 cm).

4. Which philosopher believed that the *heart* was the principal organ of thought and feeling?
 - A. **Aristotle.**
 - B. Galen.
 - C. Vesalius.
 - D. Descartes.

5. A principal difference between positron emission tomography (PET) and magnetic resonance imaging (MRI) is that
 - A. MRI has lower/worse spatial resolution.
 - B. MRI involves the use of radioactive tracer substances.
 - C. PET images actual neuronal firing.
 - D. **PET has lower/worse temporal resolution.**

6. All of these structures are components of the midbrain EXCEPT:
 - A. tectum.
 - B. **hippocampus.**
 - C. inferior colliculus.
 - D. tegmentum.

7. Why does fMRI represent an indirect measure of brain activity?
 - A. It measures brain structure, not function.
 - B. It measures electrical activity, but neurons send chemical messages.
 - C. **It measures changes in blood oxygen and blood flow that follow neural activity.**
 - D. It has poor spatial resolution.

8. Optogenetic neural stimulation techniques are _____ methods with _____ spatial and temporal resolution than functional MRI (fMRI).
 - A. structural; higher
 - B. **functional; higher**
 - C. structural; lower
 - D. functional; lower

9. Which of these landmarks separates the left from the right cerebral hemisphere?
 - A. Lateral fissure
 - B. **Longitudinal fissure**
 - C. Anterior cingulate gyrus
 - D. Central sulcus

10. Anterograde and retrograde histochemical tracers help neuroscientists determine
 - A. what stimuli best activate a brain region.
 - B. **what connects where.**
 - C. when to stimulate a brain region for maximum effect.
 - D. whether a brain area is functioning normally.

2 Bonus

11. This forebrain structure in the ventral diencephalon controls both the autonomic nervous system and the endocrine system.
- A. Hippocampus.
 - B. Thalamus.
 - C. Medulla.
 - D. Hypothalamus.**
12. The arrow in the figure on page 2 shows two parts of the brain that are structurally related to one another, the _____ and the _____.
- A. lateral fissure; temporal lobes.**
 - B. spinal cord; lateral ventricles.
 - C. amygdala; tectum.
 - D. basal ganglia; 4th ventricle.