PSY290F Midterm Test (33 points total)
October 21, 2008
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Short answers (3 points each):

1. Gonadotropin-releasing hormone (GnRH) is made in the _____ _____. It acts on cells of the _____ _____ to stimulate release of _____ and _____-_____ hormones.

2. Mammals have larger brains than reptiles (on average for animals of the same body weight) by about _____ times. Ancient birds have larger brains than ancient fishes (on average for animals of the same body weight) by about _____ times. Modern humans have larger brains than ancient humans (5 million years ago) by about _____ times.

3. Sympathetic neurons leave the central nervous system in _____ and _____ subdivisions of the spinal cord.. Then they relay via two synapses: The transmitter at the first synapse (preganglionic) is _____ and at the second synapse (postganglionic) is _____.

4. Cortical neurons begin their life cycle as _____ cells near the _____ _____. After they divide, they migrate to the cortex by way of _____ _____ cells, with the first neurons becoming part of the _____ layers of the cortex, and the last neurons becoming part of the _____ layers of the cortex. What is the ultimate fate of the radial glial cells? _____ _____ (please use the technical term).

4. **Matching (2 points for all correct):**

epinephrine	Pancreas
melotonin	Mammary gland
oxytocin	Ventral pallidum
vasopressin	Adrenal gland
insulin	Pineal gland

Definitions (write 1 or 2 sentences) (3 points each):

Activity-dependent connections

endocannabinoid

nerve net

Essay (10 points) (Use both sides of the page if needed):

Many important drugs of abuse act on dopamine neurons. Describe how amphetamine and cocaine act to change dopamine neurons, and how these changes can be measured in behaving rats. What are the behavioral changes that occur as a result of dopamine changes? Which dopamine neurons are most important for these behavioral changes? How does nicotine act to change these dopamine neurons, and what behavioral changes result from nicotine's action on these dopamine neurons? How does addiction lead to long-term changes in dopamine neurons?