

Bio 3UU3 Term II (2011) – Sample Midterm Questions

Lecture Material

1. Which of the following DOES NOT scale with body size
 - a. Metabolic rate
 - b. Amount of body fat
 - c. Diving endurance
 - d. Lung volume
 - e. All of the above scale with body size

2. The Stress Hormone Axis is located in
 - a. Arcuate nucleus
 - b. Paraventricular nucleus
 - c. Periventricular nucleus
 - d. Hippocampus

3. The pathway by which receptors in the eye convey signals to the SCN utilizes which neurotransmitter
 - a. Melanopsin
 - b. Ganglionopsin
 - c. Melatonin
 - d. Receptors in the eye are involved in vision only and do not convey signals to the SCN

4. Orexins are located in which hypothalamic area
 - a. VMN
 - b. ARC
 - c. LHA
 - d. PVN

5. Which of the following DOES NOT increase with age
 - a. Insulin resistance
 - b. Melatonin
 - c. CRH secretion
 - d. All of the above increase with age

Courseware Material

6. The biological clock cannot be sustained without input from environmental light/dark cycles
 - a. TRUE
 - b. FALSE

7. Epigenetics refers to
 - a. Organisms that respond to changes in environmental conditions through changes in gene expression
 - b. Changes in the signal transduction pathways of organisms in response to environmental changes
 - c. Changes in allele frequencies within a population
 - d. None of the above

8. During Non-REM sleep
 - a. Most neurons reduce or stop firing
 - b. Adjacent cortical neurons fire asynchronously
 - c. Breathing and heart rate are irregular
 - d. Thermoregulation is shut off

9. In terms of the circadian clock and sleep...
 - a. Both are independent and do not influence one another
 - b. The clock influences sleep but sleep has no impact on the clock
 - c. Sleep influences the clock but the clock has no impact on sleep
 - d. There is mutual cross talk between the clock and sleep processes

10. All of the following are reasons proposed by Siegel (*Why We Sleep*) for why we sleep EXCEPT:
 - a. Sleep restores sensitivity to monoamines
 - b. So that our brain can take a break because all brain activity ceases during sleep
 - c. Sleep may play a role in memory consolidation
 - d. All of the above are plausible reasons for why we sleep

Answers

- 1) D
- 2) B
- 3) A
- 4) C
- 5) B
- 6) B
- 7) A
- 8) A
- 9) D
- 10) B