

Name \_\_\_\_\_

Period \_\_\_\_\_

AP Biology

Date \_\_\_\_\_

## REVIEW UNIT 9: ANIMAL FORM & FUNCTION — SAMPLE QUESTIONS

### A. Sample Multiple Choice Questions

Complete the multiple choice questions to review this unit.

1. Gas exchange in all living organisms requires (1999:12)
  - a. gills
  - b. lungs
  - c. tracheoles
  - d. moist membranes
  - e. blood
2. Oxygen consumption can be used as measure of metabolic rate because oxygen is (1999:16)
  - a. necessary for ATP synthesis by oxidative phosphorylation
  - b. necessary to replenish glycogen levels
  - c. necessary for fermentation to take place
  - d. required by all living organisms
  - e. required to break down the ethanol that is produced in muscles
3. In animals, all of the following are associated with embryonic development EXCEPT (1999:21)
  - a. migration of cells to specific areas
  - b. formation of germ layers
  - c. activation of all the genes in each cell
  - d. inductive tissue interactions
  - e. cell division at a relatively rapid rate
4. Which of the following is LEAST likely to result in a release of epinephrine (adrenaline) from the adrenal glands?
  - a. Competing in an athletic event
  - b. Going out on a first date
  - c. Falling asleep during a lecture
  - d. Swimming in a very cold pool
  - e. Taking a test while unprepared

5. Which of the following characterizes glomerular filtrate, the fluid that passes from the blood in the glomerulus into the tubule of the nephron? (1999:40)
- It is clear in appearance and contains no glucose
  - It is a concentrated solution of waste products
  - It is identical to blood plasma
  - It is blood plasma that lacks most proteins
  - It is whole blood
6. Which of the following is the direct result of the presence of acid chyme in the small intestine? (1999:58)
- The liver produces insulin.
  - The pancreas produces hydrolytic enzymes.
  - The stomach produces pepsin.
  - The intestinal lining produces the hormone secretin.
  - The gall bladder releases bile.

**Questions 7–10.** Use the following choices for (1999:74-77)

- Testis
  - Lining of small intestines
  - Anterior pituitary
  - Thyroid
  - Pancreas
7. Releases hormones that control blood sugar levels by stimulating glycogen formation or breakdown
8. Secretes steroid hormones that affect secondary sex characteristics
9. Releases hormones that increase the rate of cellular respiration throughout the body
10. Secretes the hormones FSH and LH, which control ovulation

**Sample Free Response Questions**

1. 2005:4

An important defense against diseases in vertebrate animals is the ability to eliminate, inactivate, or destroy foreign substances and organisms. Explain how the immune system achieves THREE of the following:

- Provides an immediate nonspecific immune response
- Activates T and B cells in response to an infection
- Responds to a later exposure to the same infectious agent
- Distinguishes self from nonself

2. 2004B:3

Homeostasis, maintaining a steady-state internal environment, is a characteristic of all living organisms. Choose three of the following physiological parameters and for each, describe how homeostasis is maintained in an organism of your choice. Be sure to indicate what animal you have chosen for each parameter. You may use the same animal or different animals for your three descriptions.

- Blood-glucose levels
- Body temperature
- pH of blood
- Osmotic concentration of the blood
- Neuron resting-membrane potential

3. 2003:2

Regulatory (control) mechanisms in organisms are necessary for survival. Choose THREE of the following examples and explain how each is regulated.

- (Flowering in plants)
- (Water balance in plants)
- Water balance in terrestrial vertebrates
- Body Temperature in terrestrial vertebrates