

Sample mini-exam

ENY 3005/5005 Exam 1

Name _____

“On my honor, I have neither given nor received unauthorized aid on this examination”

Signature _____

A typical exam may be 5 pages, 30 questions plus extra credit essay. This one is shorter, just to give you a feel for exams in this course.

Sample multiple choice. Circle the one best answer (2 pts possible for each question)

- | | |
|--|---|
| 1) Part(s) of the tracheal system
a. Heart
b. Apodeme
c. Spiracles
d. Corpora cardiaca | c. Ecdysone
d. Aorta |
| 2) The integument of an insect includes:
a. Mesoderm
b. Epidermis | 3) How soft-bodied larvae can get around
a. Hydrostatic skeleton
b. Anisogamy
c. Sclerites |

Short answer and short essay

- 4) Some ants squirt formic acid at potential predators. Predators detecting the formic acid often leave the area and do not harm the ants. Formic acid in this context can be described as: (4pts, circle one)

Allomone Kairomone Synomone

10. Define semiochemical parsimony and provide a real-life (not hypothetical) example (6pts).

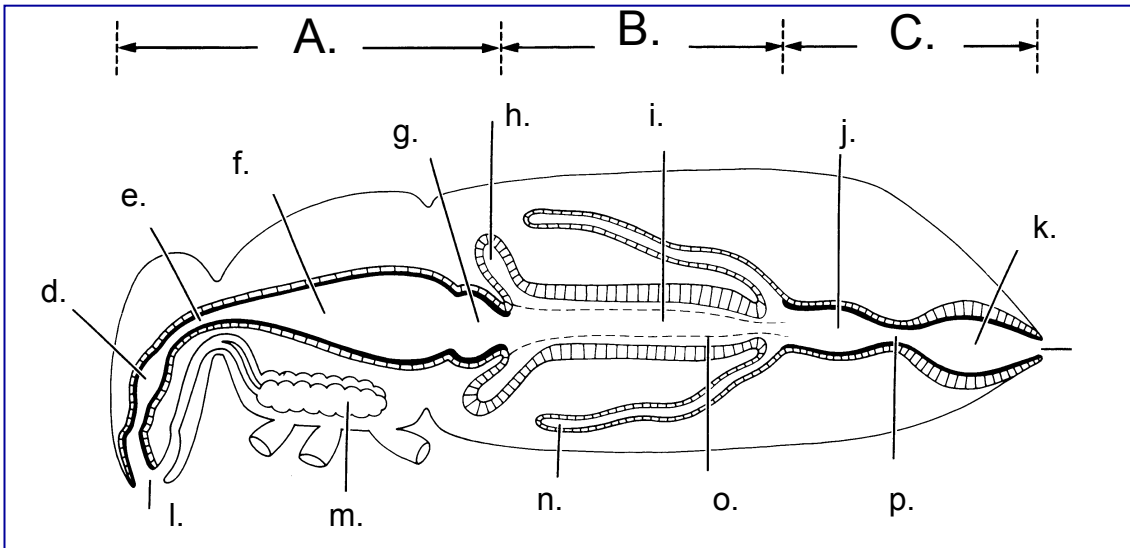
12. Next, show that you can write a scientific name in the correct format, capitalization, and order (for italics here, underline). Family: Belostomatidae, Common name: Edible water bugs. Species: *Indicus*, Genus: *Lethocerus*, Order: Hemiptera. (4pts)

13. A species of Orthoptera that lives in caves in Panama does not grow wings and cannot fly. Would you describe this species as a primitively apterygote or secondarily apterygote? Why? (4pts)

Sample True or false, 2pts each:

	T or F	
16.		Most often, long distance sex attraction pheromones are released by males
17.		Johnston's organ is found on the femur of insects
18.		Ocelli are the compound eyes of larval insects
19.		The hemocoel is also called the midgut

30. (16 points) Label the components of the alimentary canal and briefly discuss their function(s) as presented in class.



Essay: Explain the chemical communication going on when a ponderosa pine is attacked by western pine beetles (*Dendroctonus brevicomis*, Scolytinae). In your explanation, address aggregation pheromones, spacing pheromones, kairomones, and synomones. (20 points)