Biology 112 – Exam Review Answers

***Exam Review Sheet #4***

1. Mollusks all share four key features: A mantle (outer fleshy covering), an external of internal shell, a muscular foot and visceral mass (internal organ structures).
2. Land snails are restricted to moist environments because they rely of the process of diffusion for the respiration (they have no lungs). Oxygen diffuses much more easily through moist skin, and to keep their skin moist, snails must live in moist environments. Without this type of environment, they risk drying up which would prevent them from getting the necessary oxygen and they would die.
3. In an open circulatory system, a simple heart pumps blood through blood vessels. The blood vessels are not all connected, however, and blood gets dumped into open chambers, or sinuses, within the body. Animals with this type of circulatory system often use the natural movement of their body to help circulate the blood more efficiently.
4. Arthropods share 3 key features: Jointed appendages, segmented bodies and an exoskeleton.
5. An arthropod’s skeleton does not grow. In order for the organism to get bigger, it must shed, or molt, its exoskeleton and grow a new one into which it can grow.
6. Chordates share four characteristics: A dorsal nerve cord (which in humans develops as the spinal cord), a notochord (a tough rod-like structure that provides support and protection), pharyngeal pouches (which in aquatic chordates develops into gills) and a tail. Some of these structures may exist only during the embryological phase of development and disappear before birth or adulthood.
7. Fishes are aquatic vertebrates with paired fins, scales and gills.
8. Fish are adapted to an aquatic lifestyle by having streamlined bodies to be more hydrodynamic, gills for aquatic respiration and swim bladders filled with air to provide buoyancy in water.
9. Amphibians are born in water, but life their adult life on land. They have moist skin and lack claws.
10. Amphibians typically reproduce in moist environments because their larvae are adapted to survival in water. Eggs, then, must hatch in water for the larvae to survive.
11. Reptiles have dry, scaly skin to retain moisture. They lay their eggs on land, have lungs, strong limbs and are cold-blooded.
12. Lizard control their body temperatures via bodily activity. When warm, they must find a cool place to rest, such as shade or water. When cold, they must find a warm place to absorb heat from the environment.
13. Reptiles lay their eggs on land and the young hatch with the ability to breathe air (they have lungs) and powerful muscles capable of lifting their bodies against the pull of gravity.
14. Birds maintain a constant internal body temperature, have feathers, front legs that develop into wings and hind legs that are covered in scales.
15. All mammals have hair and mammary glands. They have lungs, four-chambered hearts and maintain a constant internal body temperature.