Biology 483 - Exam II Fall 2016

Name:_____________________________________

1. **Briefly** define or give the significance of the following (2 pts. each).

   Unguligrade -

   Saltatorial -

   Hybrid breakdown -

   Induced drag -

   Hemochorial -

   Protocone -

   Lophodont -

   Lift -

   Bunodont -

   Chorion -

2. What is the chain of transmission of sound waves in *modern mammals* (6 pts.)?
3. How is the clavicle modified in cursorial mammals (4 pts), and how does this contribute to running speed (6 pts)?

4. Why is it so difficult to apply the Biological Species Concept in cases of allopatry (8 pts)? How do phylogenetic concepts avoid this problem (4 pts)?
5. Describe 3 ways that bats deal with the problems associated with maintaining powered flight at low air speeds (6 pts.).

6. Illustrate how a mammalian front limb would be optimized for generating high running speed (10 pts.).
7. Why are most aquatic mammals spindle shaped (6 pts.)?

8. How is the manner that thrust is generated different in pocsids (seals) and otariids (sea lions) (6 pts.)?

9. What function does each of these elements of a bat wing serve (6 pts.)?

   Plagiopatagium -
   Dactylopatagium minus -
   Dactylopatagium longus -
   Dactyloptagium brevis -
   Uropatagium -
   Propatagium -
10. We discussed two constraints that were overcome in the evolution of the mammalian middle ear. Please explain the second of these (4 pts.) and how it was overcome (14 pts.).