Exam 3 New Topics Overview

Topic 12 – Evolution

I. Introduction
   A. Basic Concepts
   B. Some Evidence
   C. Brief History and Details of Evolutionary Theory
      1. Lamarck
      2. Darwin
      3. Dobzhansky and others: the Modern (NeoDarwinian) Synthesis
         Forces that influence evolution.

II. Species and Speciation
   A. Definition of a species
   B. Barriers to geneflow

Topic 13 – Evolutionary Origins of Order Cetacea

I. Cetaceans are mammals
   A. Phylogeny of extant lineages of mammals
   B. Shared mammalian characteristics
   C. They are not fish

II. The Order Cetacea
   A. Baleen Whales
   B. Toothed Whales

III. Evolutionary Origins of Cetaceans
   A. Support for their origin from terrestrial ungulates
      1. Phylogenetic evidence
      2. Analogous origins of aquatic mammals from terrestrial mammals
      3. Front flippers derived from front limbs.
      4. Loss of hind limbs/legs (know fossil sequence supporting this).
      5. Nostril migration.
Topic 14 – Humans Origins

I. Our Primate Heritage
   A. First primates were arboreal.
   B. Three major groups of primates.
   C. Apes: Gibbons
   D. Apes: Orangutans
   E. Apes: Gorillas
   F. Apes: Chimps
   G. Apes: Humans

II. Hominid Evolution
   A. Family Hominidae
   B. The human branch
   C. Evolution of bipedalism
   D. Large brains marks the origin of genus Homo.
   E. Origin(s) of Homo sapiens