

Study Guide for ANTH 156 Exam Two

The test format is written paragraph/short essay answers. The instructions that will appear on the test are at the end of the guide.

All exam questions will be drawn from the lecture material and class discussion with reference to the required readings.

To prepare for the test make sure that you understand, or even better, that you can provide a written answer to the following issues/statements:

1. Using examples, be prepared to discuss one or more behavioral scenarios explaining the hominoid transition from quadrupedalism to bipedalism.
2. According to Rodman and McHenry, bipedal locomotion is not more efficient than true quadrupedalism, but is more efficient than ape quadrupedalism. How might this insight explain the evolution of human bipedalism?
3. Bramble and Lieberman argue that humans are physiologically adapted for endurance running. Describe several of the physiological characteristics that allow humans to be effective endurance runners. Discuss at least two of the behavioral hypotheses that might explain how endurance running may have been adaptive during human evolution.
4. Hominid evolution is characterized by rapid brain encephalization during the last 2 million years. Brain evolution occurred even though brain tissue is metabolically expensive. Discuss two significant costs associated with large brains in humans.
5. Human body size, brain size and the size of the face and jaw changed significantly after 2 million years ago. These changes have been attributed to diet shifts towards high quality foods. Describe at least two of the scenarios discussed in class explaining these dietary shifts. Discuss evidence in support of each of the scenarios.
6. According to Dawkins, what are the key properties of replicators? How does Natural Selection affect the frequency of particular types of replicators?
7. According to Dawkins, what is the level at which selection operates most strongly (the gene, the individual, or the group)? Use examples to illustrate Dawkins' argument. Why is Group Selection unlikely to occur in Nature?
8. Much of Dawkins book is a response to prevailing ideas in the 1960s that individuals make self-sacrificing (altruistic) choices "for the good of the species" (Group Selection). How does the concept of an evolutionary stable strategy (e.g. Hawks and Doves) show that group selection is unlikely to work in Nature?
9. How does Game Theory demonstrate that "nice guys can finish first", even though evolutionary theory emphasizes the probability of selfishness in interpersonal interactions?

10. How does the Prisoner's Dilemma game show that mutualism is a successful behavioral strategy? Is mutualism the same as altruism?

11. Using examples, be prepared to describe the principle of reciprocal altruism governing interactions between individuals in a social group.

12. What does Kin Selection predict about altruistic interactions between individuals? What is the coefficient of relatedness? Provide an example of inclusive fitness.

13. Should a mother invest equally in all of her offspring? Should a mother invest equally in the runt of the litter? Discuss with reference to the concept of Kin Selection, and the finite availability of resources to the mother.

14. Discuss parent-offspring conflict in humans with reference to infanticide in mobile foraging groups.

15. Why sex? Discuss two of the hypotheses explaining the evolution of sexual reproduction.

EXAM INSTRUCTIONS

This is a written exam composed of paragraph/short essay questions.

You have a choice among ___ questions. Answer five (5) questions only. Each question is worth 5 marks (25% of your total grade).

Answer one question on each page.

- Where there are two question options on the page, circle the title of the question you are answering.

Write your name and SS# on the top of every answer page.

Write **AT LEAST** half a page (and no more than one page).

- **DO NOT USE PADDING SENTENCES** like "I really liked this article" - just give me the facts as you see them.
- **DO NOT USE LISTS OR BULLET POINTS.**
- You can and should use blank paper (or unused sections of the test sheets) to prepare your answers. Cross out any writing on the test sheets that you don't want marked.
- Write legibly - illegible writing will not be marked.
- Ignoring these instructions will result in the deduction of marks.

You have until the end of the class period to complete the exam - GOOD LUCK!

- Don't forget to write your name and SS# on the top of each answer page.