

## Bio 213 — Evolution — Study Guide for Test 2 SPRING 1998

A. General Information - see "Rules For Test Taking" on study guide for Test 1 (available on web)

B. Structure of the test:

1. There will be 4 problems, worth 13 points each, along with 16 objective or short-answer questions, worth 3 points each.
2. BRING A CALCULATOR.
3. The 4 problems will be from among the following problems:
  - a. test a population for being in the Hardy-Weinberg genotypic frequencies
  - b. derive and solve the recurrence equation for a recessive lethal
  - c. interpret a complex  $\Delta q$  graph
  - d. graphically and algebraically derive the recurrence equation for migration
  - e. graphically derive the equation for heritability
  - f. write a paragraph on the evolution of sex, covering at least the following: why does sex exist, why do the sexes differ, what sex ratio is selected for and when, and tell how sex has an automatic 50% disadvantage compared to asexual reproduction.
5. There will also be 16 objective-type questions, each worth 3 points, from the chapter summary points. One question will be from among the assigned summary points for each of the 9 chapters (see below). Two questions will be from the CD virtual experiments, one each of the 3 assigned video clips, and one from each of the two assigned articles on the CD.

C. How to Study

1. Study your lecture notes — try to get the main principles that were covered firmly in mind. Look at the old tests available on the web and **PRACTICE THE PROBLEMS** you will be given on this test.
2. Read all the assigned chapters. First read the summary. Then read the text. Then reread the summary. Write 2-3 **paragraphs** summarizing the chapter in your own words, and write one paragraph expanding one of the summary sentences to a full paragraph with some details.
3. Study with a partner. Ask each other questions from lecture, and ask each other questions about the summary sentences from each chapter.
4. PRACTICE THE PROBLEMS.

II. What to Study

A. Lectures

- a. know the lecture notes (available on line in .pdf format)
- b. know how to do the problems that may be on the test.

B. Book

- a. read Chapters 4, 5, 6, skim & read summary points of 7, 9, 10, 11, 12, & 13. Chapters 15 and 16 will not be covered on this exam.
- b. Chapter summary points you are responsible for:

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Chapter 4: all of them; Chapter 5: 1-4 + 7-12; Chapter 6: all; Chapter 7: 1, 2, 5, 7, 9; Chapter 9: 1-6 + 8; Chapter 10: 1-3 + 8 + 13; Chapter 11: 1-10 + 11 + 13; Chapter 12: 1 + 5- 6 + 7-11; Chapter 13: 1-8 + 12.

C. CD material: Review the CD virtual experiments. Know the main points of the Partridge, Lewontin, and Hamilton video clips. Know the main points of the Gould & Lewontin, and the Coyne & Orr articles.