

## Guided Reading Questions for Material Covered on Exam 2

*You do not have to know all of the material in every chapter listed on the syllabus. To help you pick and choose what to focus on, I have selected the following questions as being most relevant to the material we will cover in class. As you study, try to answer these questions without looking at your book or your notes.*

*More than any other, this section skips around quite a bit in the book. This list of questions roughly maintains the order in which we will cover the material in lecture.*

### Chapter 7 (part 1)

Sec. 7.2

- Mastering Concepts #1, 2, 3

Multiple Choice #1, 2

Testing Knowledge #1, 2, 3

Thinking as a Scientist #N/A

**Make a concept map** using the following terms: nucleotide, deoxyribose, phosphate, nitrogenous base, adenine, cytosine, guanine, thymine, DNA, nucleic acid, hydrogen bond, double helix

### Chapter 12 (part 1)

Sec. 12.1

- Mastering Concepts #1, 2, 3

Sec. 12.2

- What happens during transcription?
- Where in a eukaryotic cell does transcription occur?
- Mastering Concepts #2, 3

Sec. 12.3

- What happens during translation?
- Where in the cell does translation occur?

Sec. 12.5

- Mastering Concepts #1, 2, 3, 4

Multiple Choice #1, 2, 4, 5, 7

Testing Knowledge #1, 2, 3, 5, 6, 7, 8, 10

Thinking as a Scientist #1, 2, 4, 8

Genetics problems #1, 3, 7

**Make a concept map** using the following terms: gene, codon, mutation, nucleotide, anticodon, protein, mRNA, DNA, tRNA, amino acid, RNA polymerase, nucleus, ribosome

## **Chapter 17**

Sec. 17.1

- Mastering Concepts #1, 2, 3, 4, 6, 7

Sec. 17.2

- Mastering Concepts # 1, 2, 3, 4, 5

Sec. 17.3

- Mastering Concepts #3

Multiple Choice #1, 3, 4

Testing Knowledge #1, 2, 3, 4

Thinking as a Scientist #1, 4, 5

**Make a concept map** using the following terms: virus, host cell, genetic material, protein, ribosomes, envelope, ATP, amino acids, nucleotides, attachment, penetration, synthesis, assembly, release

## **Chapter 9 (part 1)**

Sec. 9.1

- Mastering Concepts #1, 2, 3

Multiple Choice #1

Testing Knowledge #1, 2

Thinking as a Scientist #4

## **Chapter 18 (part 1)**

Sec. 18.4

- Mastering Concepts #1

Multiple Choice #1

Testing Knowledge N/A

Thinking as a Scientist N/A

## **Chapter 7 (part 2)**

Sec. 7.3

- Mastering Concepts #1, 3, 4, 5

Multiple Choice #1, 2, 6

Testing Knowledge #1, 2, 3, 4  
Thinking as a Scientist #5

Make a concept map using the following terms: DNA, replication, DNA polymerase, nucleus, semiconservative, enzyme, nucleotides

## Chapter 8

Sec. 8.1

- Mastering Concepts #1, 3, 4, 5

Sec. 8.2

- Mastering Concepts #1, 2, 3, 4

Sec. 8.4

- What prevents normal cells from dividing when they are not supposed to?
- What is the relationship between genetic mutations and cancer?
- Mastering Concepts #1

Sec. 8.5

- Mastering Concepts #1, #2, #4

Multiple Choice #1, 2, 3, 5

Testing Knowledge #1, 2, 3, 5, 6, 8, 9

Thinking as a Scientist #1, 2, 4, 7, 8, 9, 10, 11

**Make a concept map** using the following terms: chromatin, centromere, chromosome, chromatid, DNA, nucleus, replication, haploid, diploid, mitosis, cytokinesis, interphase, prophase, metaphase, anaphase, telophase, apoptosis, cancer, protein, binary fission

## Chapter 9 (part 2)

Sec. 9.2

- Mastering Concepts #1, 2, 3, 4

Sec. 9.3

- Mastering Concepts #1, 2, 3

Sec. 9.4

- Mastering Concepts #1, 2, 3

Sec. 9.5

- Mastering Concepts #1, 2

Sec. 9.6

- Mastering Concepts #2

Multiple Choice #1, 2, 3, 5, 6, 7, 8  
Testing Knowledge #3, 5, 6, 7, 8, 9  
Thinking as a Scientist #1, 2, 3

**Make a concept map** using the following terms: chromatin, centromere, chromosome, chromatid, homologous, nucleus, haploid, diploid, meiosis, nondisjunction, gametes, fertilization, zygote

## Chapter 10

Sec. 10.1

- Mastering Concepts #2

Sec. 10.2

- Mastering Concepts #2, 3

Sec. 10.4

- Mastering Concepts #1, 3

Sec. 10.5

- Mastering Concepts #1, 2

Multiple Choice #1, 2, 3, 7, 9, 10  
Testing Knowledge #1, 2, 3, 7  
Thinking as a Scientist #1, 2, 3, 5, 6  
Genetics problems #1, 3, 5

**Make a concept map** using the following terms: DNA, cell, gene, allele, phenotype, genotype, homozygous, heterozygous, dominant, recessive, parents, offspring, meiosis, gametes

## Chapter 12 (part 2)

Sec. 12.6

- Mastering Concepts #2

Sec. 12.7

- Mastering Concepts #1, 2, 3

Multiple Choice #8  
Testing Knowledge #11, 12  
Thinking as a Scientist #6 (part b only)

Make a concept map using the following terms: DNA, restriction enzyme, protein, transgenic, plasmid, *Agrobacterium*