Study Questions Chapter 10

For the next few questions, read the introduction to chapter 10 as well as the section (approximately 6 pages long) with the heading "**Fitness**".

1. Which can be improved with weight training?
   a) muscle strength
   b) muscle endurance
   c) bone mass (density)
   d) flexibility

2. Which kind of muscle fibers store extra glycogen for anaerobic activity?
   a. Slow-twitch muscle fibers
   b. Fast-twitch muscle fibers

3. Which of the following **IN**creases as training improves cardiorespiratory endurance?
   a) number of red blood cells
   b) resting blood pressure
   c) cardiac output
   d) blood HDLs
   e) resting pulse

For the next few questions, read the section (approximately 7 pages long) with the heading "**The Active Body's Use of Fuels**".

4. Why do muscles conserve their glycogen stores, instead of releasing their glucose into the bloodstream the way the liver does? _____

5. According to this section in the text, which diet produced the maximum endurance?
   a) high-carbohydrate diet
   b) normal mixed diet
   c) high-fat diet

6. Which of the following is a true statement?
   a. Muscles produce lactate (lactic acid) during a type of fatigue.
   b. That lactate (lactic acid) causes the fatigue.
   c. Both of these statements are true.

7. According to this section in the text, to perform the same activity, highly trained muscles use:
   a) less fat and more glucose compared to untrained muscles, so their glycogen lasts longer.
   b) less glucose and more fat compared to untrained muscles, so their glycogen lasts longer.

8. Alice has been training for Eugene's July 4 Butte-to-Butte run while Carol's exercise consists of clicking the remote to surf between ESPN, Fox Sports and ESPN2. To perform the same work, whose muscles use more fat, according to what you just learned in the question before this one?
   a) Alice
   b) Carol

9. According to this section in the text, if Alice eats a fat-rich diet with little carbohydrate, during activity what will she probably sacrifice? _____

10. It is recommended that endurance athletes consume:
    a) 35-40% of their energy from fat
    b) 20-30% of their energy from fat

11. Read "**Can Physical Training Speed Up an Athlete's Metabolism**"? Then select the TRUE statement:
    a. Intense physical activity may increase metabolism anywhere from minutes to hours afterwards depending on the duration and intensity of the activity.
    b. There is no evidence that intense physical activity can increase metabolism afterwards.

12. When do muscles speed up their protein synthesis?
    a. During their physical activity.
    b. During the period of rest that follows physical activity.

13. Read the table with "**Recommended Protein Intakes for Athletes**". It gives the average protein intake for U.S. males as 95 grams per day. Is that more or less than the minimum recommended intake for male endurance athletes? _____

14. Read "**Vitamins and Minerals- Keys to Performance**". For all of the nutrients below, there is little or no evidence that extra amounts of this from supplements can definitely benefit performance. But there is some evidence that extra amounts of one nutrient from supplements may protect against exercise-induced oxidative damage. Which nutrient is this?
    a. Thiamin
    b. Riboflavin
    c. Niacin
    d. Vitamin B6
    e. Vitamin B12
    f. Vitamin E

15. At the end of Chapter 10, read "**Controversy 10: Ergogenic Aids**". ***SoBe Energy*** is a drink with the following INGREDIENTS: water, high fructose corn syrup, orange and lemon juice concentrates, citric acid, natural flavor, pectin, gum acacia, ascorbic acid (vitamin C), caffeine, ester gum, yohimbe extract, arginine, beta carotene, guarana extracts, caramel color, cysteine. According to the **Table** with the title "**Products Promoted As Ergogenic Aids**", which of the following can cause a fast heart rate and/or stress the heart:
    a. Caffeine
    b. Guarana
    c. Yohimbe *(This is not on the table so I looked it up. It is derived from the bark of the West African tree Pausinystalia. Potential adverse side effects include agitation, tremors, anxiety, high blood pressure, rapid heartbeat, nausea, and vomiting.)*
    d. Arginine

16. According to that same **Table** of the text, which has more caffeine?
    a. A guarana berry
    b. A coffee bean

17. Read ***Controversy* 12** (at the end of Chapter 12), "[Organic Foods and] **Genetically Modified Foods: What Are the Pros and Cons?**" According to that section, about how many kernels of corn did the original, native corn stalk have?

18. According to that section, how is selective breeding different than genetically modified crops?

19. Take a quick look at Chapter 13- Life Cycle Nutrition: Mother and Infant. Near the beginning, in what way does it say fathers-to-be can sustain damage to their sperm's genetic material, which can cause birth defects in children?

20. Take a quick look at Chapter 14- Child, Teen & Older Adult. What did you read that was interesting or surprising? Include the page number.

21. According to **Lecture 10A**: Chapter 10, what are the 4 components of fitness?

22. According to **Lecture 10A**: Chapter 10, protein supplies ____% of the fuel used during rest & activity.
    a. 10%
    b. 25%
    c. 40%

23. Take a look at **Lecture 10B**: SPORTS DRINKS, what is the name of the easily digestible polysaccharides that are chains of about 5 glucose molecules that are?
    a. oligosacchardies
    b. glucofive
    c. maltodextrins
    d. dextrose

24. After looking at **Lecture 10B**: SPORTS DRINKS, what was most surprising on that document or what was something you already knew?

25. **MYSTERY QUESTION**. For this one, have your Ch. **10A** lecture notes in front of you. You will be asked 1 or more questions about something from one of the blanks or the questions asked in Lecture **10A**.

26. Take a look at the FORUM for Week **9** (last week). Do you find one posting done by you? _____