Sample Questions for the SCCC Written Certification Examination

Scientific Questions:

1. Early increases in strength are most readily explained by:
    a. Small increases in fiber numbers
    b. Increases in numbers of fibers recruited
    c. Neural adaptation facilitating fiber contraction
    d. B & C

2. The primary factor determining substrate utilization during exercise is:
    a. Duration
    b. Temperature
    c. Intensity
    d. Mode of exercise, resistance vs. rhythmic

3. Energy production during weight-lifting for strength is primarily via:
    a. ATP-PC system
    b. Glycolytic system
    c. Lipid oxidation system
    d. Beta-oxidation system

4. A College volleyball player begins resistance training for the first time. Which of the following muscle fiber types will hypertrophy first?
    a. A fast-twitch
    b. Slow-twitch
    c. Muscle spindle
    d. Intrafusal muscle

5. With detraining, the blood lactate levels are _____ compared to values obtained at the same submaximal rates of work when highly trained.
    a. Much lower
    b. Somewhat lower
    c. Approximately the same
    d. Higher

6. Which of the following is recognized as a factor influencing energy expenditure during exercise?
    a. Age
    b. Duration
    c. Exercise mode
    d. All of the above

7. How would you correctly describe one metabolic equivalent?
    a. 35ml.kg.min
    b. 5L/min
    c. 3.5ml.kg.min
    d. None of the above

8. An individual who exercises maximally for 90 seconds will provide most of their energy using which system?
    a. ATP-PC system
    b. Anaerobic glycolysis
    c. Aerobic oxidation
    d. Protein deamination

9. All of the following describe caffeine's role in improving athletic performance EXCEPT:
    a. Delayed fatigue
    b. Glycogen sparing
    c. Increased alertness
    d. Decreased urine production

10. Which of the following substances has been shown by multiple research studies to improve performance?
    a. Androstenedione
    b. Creatine
    c. L-carnitine
    d. Chromium

11. Which of the following best explains the requirement for increased protein intake by athletes?
    a. Decreased protein oxidation during aerobic exercise
    b. Increased need for tissue repair
    c. Restriction of calories to lose weight
    d. The quality of protein consumed

Practical Questions:

12. A sprinter just completed a semi-final 800-m sprint. Which of the following should he do to facilitate removal of lactic acid from the blood in preparation for the finals?
    a. Perform stretching exercises
    b. Sit in a shady area
    c. Perform moderate-intensity jogging
    d. Drink several glasses of water

13. Long-term recovery from exercise is best achieved with:
    a. Proper nutritional intake
    b. Cold water immersion
    c. A proper cool-down
    d. Massage of the agonist muscle

14. In organizing a periodization training chart, which of the following makes most sense?
    a. Make sure there is a high volume of work close to the competitive season
    b. Incorporating agility and speed work together
    c. Allowing adequate time in the off-season for aerobic base building
    d. B & C

15. Which of the following procedures should be followed when testing cardiovascular fitness in the heat?
    I. Use salt tablets to retain water
    II. Use an indoor facility
    III. Test in the morning
    IV. Drink fluids during exercise

    a. I, II, and III only
    b. II, III, and IV only
    c. I and III only
    d. II and IV only

16. The basketball coach says his players need to jump higher. In addition to beginning a plyometric program, which of the following resistance training exercises are most essential to this goal?
    I. Power clean
    II. Leg curl
    III. Front squat
    IV. Seated calf (heel) raise

    a. I and III only
    b. II and IV only
    c. I, II, and III only
    d. II, III, and IV only

17. Which of the following would be the most appropriate warm-up routine for a soccer player?
    a. Static stretching
    b. Passive static stretching
    c. Dynamic warm-up
    d. Light jogging

18. Which of the following about free weights versus machine weights is correct?
    a. Proprioception is better developed with machine weights
    b. Symmetry is better developed with free weights
    c. Core stabilizing muscles are better developed with machine weights
    d. Movement patterns are more correct with machine weights

19. During which of the following exercise should a spotter's hands be placed on the athlete's elbows/wrists?
    a. Bend press
    b. Dumbbell incline bench press
    c. Upright row
    d. Overhead triceps extension

20. Which of the following exercises would develop the antagonists of a squat?
    a. Vertical jump
    b. Box jumps
    c. Hamstring curls
    d. Lunges

Answer Key:

1. D
2. C
3. A
4. B
5. D
6. D
7. C
8. B
9. D
10. B
11. B
12. C
13. A
14. D
15. B
16. A
17. C
18. B
19. B
20. C