



# BCRPA Weight Training Module ICE Questions

# Form B

The following pages list questions with point values. The passing mark for **each section is 75% for BCRPA Fitness Leaders and 85% for BCRPA Advanced Fitness Leaders**. Answers may be found in your theory and weight training course manuals. Some questions may require that you observe interactions in a fitness centre and interview facility owners, managers or employees. NOTE: Answers that require "ranges," such as heart rate ranges and repetitions, have been enlarged to encompass variances among resources; answers that fall within these ranges are acceptable.

## A. The Orientation

1A. List steps an instructor can take to make a participant feel comfortable during an orientation.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ / 3

2A. What is the ParQ, and why should it be administered?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ / 2

3A. Describe the instructor's responsibilities when a participant answers "yes" to one or more of the risk factors on the ParQ.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ / 1

4A. Outline some realistic short-term goals for the 1<sup>st</sup> to 6<sup>th</sup> week of a new exercise program for an apparently healthy adult.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ / 5

A. Orientation Total \_\_\_\_ / 11 \_\_\_\_ %

## B. The Warm-Up

1B. List five physiological changes that occur as a result of performing a proper warm-up.

I. \_\_\_\_\_  
II. \_\_\_\_\_  
III. \_\_\_\_\_  
IV. \_\_\_\_\_  
V. \_\_\_\_\_  
\_\_\_\_\_ / 10

2B. Explain the concept of steady state (homeostasis). How does this concept relate to a warm-up?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ / 2

3B. Describe two heart rate formulas used to determine a participant's training heart rate.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ / 2

4B. What is an average pre-exercise heart rate in beats per minute (bpm) for a sedentary man or woman? What steps would you take when measuring it?

---



---

\_\_\_ / 2

5B. What is considered a high pre-exercise resting heart rate for a sedentary man or woman? What could it mean? What is the next step when you detect such a rate?

---



---

\_\_\_ / 3

6B. What is considered a low pre-exercise resting heart rate for a sedentary man or woman OF ANY AGE? What could it mean? What is the next step when you detect such a rate?

---



---

\_\_\_ / 3

7B. Describe “aerobic” versus “anaerobic” exercise. List two activities for each.

---



---



---

\_\_\_ / 2

8B. Describe three cues you would use to instruct a participant on how to establish neutral posture from a standing position.

I.

---

II.

---

III.

---

\_\_\_ / 3

9B. Briefly describe the four types of stretching listed below. Provide an example of each. Describe the pros and cons of using each method in a warm-up.

	Static	Dynamic	Active	Passive
Description/ Example				
Pros				
Cons				

\_\_\_ / 12

**C. Workout Progression**

**1C. How can a participant record and monitor his or her exercise progression for both weight training and cardiovascular training?**

Weight Training:

Cardiovascular Training:

\_\_\_\_ / 2

**2C. Describe the following principles as they apply to weight training: Progressive Overload, SAID principle and Rest between workouts.**

Progressive Overload:

SAID principle:

Rest between workouts:

\_\_\_\_ / 3

**3C. Using Frequency, Intensity, Time as your guideline, describe the training workloads for an apparently healthy unfit beginner.**

	Frequency	Intensity	Time
Weight Training			
Cardiovascular Training			

\_\_\_\_ / 6

**4C. List two methods of determining resistance workload and intensity, and one advantage and one disadvantage of each method.**

Method		
Advantage		
Disadvantage		

\_\_\_\_ / 6

**5C. Describe two methods, other than heart rate formulas, to determine training workload and intensity during cardiovascular exercise. List one advantage and one disadvantage of determining intensity through means other than heart rate.**

Method 1:

Method 2:

Advantage:

Disadvantage:

\_\_\_\_ / 4

**6C. List one verbal indicator and one visual indicator that suggest a participant may be experiencing discomfort or pain.**

Verbal indicator:

Visual indicator:

\_\_\_\_ / 2

**7C. Define the following terms:**

Concentric contraction:

Eccentric contraction:

Isometric contraction:

**D. The Weight Room**

**1D. List the fitness equipment used in a weight room setting that would be classified as “free weights.” What are some advantages of using free weights instead of machines? Disadvantages?**

Examples of free weights:

Advantages:

Disadvantages:

\_\_\_\_ / 3

**2D. What are the some advantages of using machines instead of free weights? Disadvantages?**

Advantages:

Disadvantages:

\_\_\_\_ / 2

**3D. Define dynamic constant resistance (i.e. free weights, pulleys), dynamic variable resistance (i.e. Nautilus, Life Circuit, stairclimber) and isokinetic equipment (i.e. Hydragym, FitNet) and provide an advantage and disadvantage of using each type of resistance.**

	Dynamic Constant Resistance	Dynamic Variable Resistance	Isokinetic Equipment
Definition			
Advantage			
Disadvantage			

\_\_\_\_ / 9

**4D. List words or phrases that participants may use to describe goals for the following training disciplines: muscular endurance, muscular hypertrophy and muscular strength.**

Muscular endurance:

Muscular hypertrophy:

Muscular strength:

\_\_\_\_ / 3

**5D. Complete the following workout chart for each type of training discipline. (Note: Frequency indicates workouts *per muscle group* per week. \*Duration lists possible repetition ranges, therefore, examples may fall within the range listed.)**

Training Type	Frequency (days/week)	Intensity of 1RM	Duration*			Rest Between Sets	Rest Between Workouts
			Sets	Reps	Time		
Muscular Endurance							
Muscular							

Hypertrophy							
Muscular Strength							

\_\_\_ / 21

6D. What is an effective speed range (in seconds) of a single repetition, for concentric and eccentric phases?

Concentric: \_\_\_\_\_ seconds                      Eccentric: \_\_\_\_\_ seconds

\_\_\_ / 2

7D. Explain the importance of training opposing muscle groups as part of a well-balanced program. What might be an exception to this rule?

Importance: \_\_\_\_\_  
 Exception: \_\_\_\_\_

\_\_\_ / 2

8D. Each of the following sample programs is missing two exercises that would *balance the muscles worked*. Fill in the missing exercises.

Workout One	
Chest press	Incline shoulder press
Leg extension	Calf press
Lat pull-down	Back extension
Hamstring curl	1.
Seated row	2.
Gluteal/hip machine	

Workout Two	
Dumbbell fly	1.
Leg press	2.
Lat pullover	
Prone bridge position	
Dumbbell lateral raise	
Biceps curl	

\_\_\_ / 4

**E. Weight Room Total** \_\_\_ / 46 \_\_\_ %

**E. Cardiovascular Training**

1E. Apply the F.I.T.T. (Frequency, Intensity, Time and Type) guidelines for cardiovascular training to an apparently healthy adult between 19 and 45 years old.

\_\_\_\_\_  
 \_\_\_\_\_

\_\_\_ / 4

2E. Describe an alternative for individuals who cannot sustain 20 minutes of continuous cardiovascular training.

\_\_\_\_\_  
 \_\_\_\_\_

\_\_\_ / 2

3E. For whom would you recommend cardiovascular training BEFORE/AFTER weight training within a given workout? Why?

	Recommended for whom?	Why?
Cardio BEFORE Weights		
Cardio AFTER Weights		

\_\_\_ / 4

4E. Describe two benefits of training the cardiovascular system at 60-70% of one's heart rate maximum. For whom would this be most beneficial?

Benefit: \_\_\_\_\_

Benefit:

Most beneficial for whom:

\_\_\_\_ / 4

**5E. Describe two benefits of training the cardiovascular system at 70-90% of one's heart rate maximum. For whom would this be most beneficial?**

Benefit:

Benefit:

Most beneficial for whom:

\_\_\_\_ / 4

**6E. List three benefits of cardiovascular interval training.**

I.

II.

III.

\_\_\_\_ / 3

**7E. List the risks involved with consistent workouts training over 90% of heart rate maximum.**

\_\_\_\_ / 3

**E. Cardiovascular Total**    \_\_\_\_ / 24    \_\_\_\_ %

---

## **F. Flexibility Training**

**1F. Apply the F.I.T.T. principle to flexibility training for participants who wish to increase range of motion (ROM).**

\_\_\_\_ / 4

**2F. Describe the most effective time for flexibility training during an exercise session.**

\_\_\_\_ / 1

**3F. Define: muscle spindles; golgi tendon organ; myotatic stretch reflex and inverse myotatic stretch reflex.**

Muscle spindles:

Golgi tendon organ (GTO):

Myotatic stretch reflex:

Inverse myotatic stretch reflex:

\_\_\_\_ / 4  
F. Flexibility Training Total \_\_\_\_ / 9 \_\_\_\_ %

### G. The Post-Workout Consultation

1G. List the points to address in the post-workout consultation.

---

---

---

\_\_\_\_ / 3

2G. What is DOMS? Describe the current theory for this soreness.

---

---

\_\_\_\_ / 2

3G. Describe the difference between “good” soreness and “bad” soreness.

Good soreness:

---

---

Bad soreness:

\_\_\_\_ / 3

4G. List indicators that suggest it may be appropriate to increase/decrease cardiovascular/weight training intensity:

	Indicator
INCREASE weight-training intensity	
INCREASE cardiovascular-training intensity	
DECREASE weight-training intensity	
DECREASE cardiovascular-training intensity	

\_\_\_\_ / 8

G. The Post-Workout Consultation Total \_\_\_\_ / 16 \_\_\_\_ %

### H. Safe Environment

1H. List three common points of gym etiquette that a weight room instructor could enforce.

I. \_\_\_\_\_

II. \_\_\_\_\_

III. \_\_\_\_\_

\_\_\_\_ / 3

2H. List three reasons why a participant may be inattentive, which can lead to injury. Name a proactive measure that an instructor can employ to reduce the risk of each example.

- I. \_\_\_\_\_
- II. \_\_\_\_\_
- III. \_\_\_\_\_

\_\_\_\_ / 3

**3H. List 5 common, but correctable, technique errors that participants make while weight training.**

- I. \_\_\_\_\_
- II. \_\_\_\_\_
- III. \_\_\_\_\_
- IV. \_\_\_\_\_
- V. \_\_\_\_\_

\_\_\_\_ / 5

**4H. Describe how you would approach a participant engaging in a high-risk exercise to determine if the exercise is appropriate for that individual. What would you do if the participant has a valid reason for doing that exercise? What would you do if he or she has no valid reason?**

---



---



---

\_\_\_\_ / 3

**5H. List five safety procedures for maintaining safe and effective equipment use (i.e. preventative maintenance).**

- I. \_\_\_\_\_
- II. \_\_\_\_\_
- III. \_\_\_\_\_
- IV. \_\_\_\_\_
- V. \_\_\_\_\_

\_\_\_\_ / 5

**6H. List five weight room exercises that may be considered high risk for the general population.**

- I. \_\_\_\_\_
- II. \_\_\_\_\_
- III. \_\_\_\_\_
- IV. \_\_\_\_\_
- V. \_\_\_\_\_

\_\_\_\_ / 5

**7H. Provide five instructional tips to reduce the risk of the following injuries and/or pain.**

Falling off a moving treadmill	
Injuries to toes, hands and fingers	
Chrome/metal slivers from barbells	



Shoulder impingement syndrome	
Back pain	

\_\_\_\_ / 10

**8H. List five exercises that require a spotter when using a workload that fatigues the muscles in less than 12 reps. Explain why a spotter is required.**

Five Exercises:

Why a spotter required:

\_\_\_\_ / 6

**9H. List the six steps for good spotter technique, including what to do if the participant has reached fatigue and requires your assistance.**

- I. \_\_\_\_\_
- II. \_\_\_\_\_
- III. \_\_\_\_\_
- IV. \_\_\_\_\_
- V. \_\_\_\_\_
- VI. \_\_\_\_\_

\_\_\_\_ / 6

I. Safe Environment Total \_\_\_\_ / 46 \_\_\_\_ %

**I. Scope of Practice**

**1I. A potential exercise participant with a condition requiring medical clearance contacts you to start a low-intensity fitness program. AFTER receiving medical clearance, what is your Scope of Practice with this individual?**

\_\_\_\_ / 1

**2I. List four additional points from the BCRPA Scope of Practice.**

- I. \_\_\_\_\_
- II. \_\_\_\_\_
- III. \_\_\_\_\_
- IV. \_\_\_\_\_

\_\_\_\_ / 4

I. Scope of Practice Total \_\_\_\_ / 5 \_\_\_\_ %

**J. Referral Network**

**1J. For each situation, list the name and phone number of an appropriate organization, and describe when you would refer a participant to such a service.**

	Name	Phone Number	When to refer?

Nutrition organization			
Back care resource (i.e. chiropractor or physiotherapist)			
Medical resource			
Psychological counseling			

J. Referral Network Total \_\_\_\_ / 12 \_\_\_\_ %

## K. Frequently Asked Questions

Answer each frequently asked question below, including what questions you may ask participants and how you would instruct them based on their question. For example:

**“What is the best exercise to reduce fat on my inner thighs?”**

**Question and clarify:** *What is your current fitness program (frequency, intensity, duration and exercises)? What are your current goals? Do you feel these goals are realistic?*

**Instruct:** *Demonstrate or teach one to four exercises for the requested body part. Include exercises that work opposing muscle groups. Remind participant that spot reduction does not work. That’s because exercise usually mobilizes fat from all areas of the body, not just from specific parts. Decreases in girth can occur with exercise training as a result of increased muscle density and loss of body fat. Exercises for one body part will be enhanced through a balanced weight-training program, combined with cardiovascular training and a healthy nutrition plan.*

**1K. “What is the best way to lose 15 pounds? How long will it take?”**

Question and clarify:

Instruct:

\_\_\_\_ / 2

**2K. “Which supplements should I take?” (Vitamins? amino acids? protein drinks? creatine?)**

Question and clarify:

Instruct:

\_\_\_\_ / 2

**3K. “Should I decrease my cardiovascular training intensity from 75% to 60% to increase fat loss? Is it true I am only burning fat after 20 to 25 minutes of cardiovascular training?”**

Question and clarify:

Instruct:

\_\_\_\_ / 3

**4K. "Which is better for cardio, the upright or recumbent cycle? Treadmill, stepper or elliptical trainer?"**

Question and clarify:
Instruct:

\_\_\_\_ / 2

**5K. Often participants have questions, but may be too shy to approach you. List methods you can use to encourage participant-instructor interaction and communicate to participants that you are approachable.**

---

---

\_\_\_\_ / 1

**K. Frequently Asked Questions Total** \_\_\_\_ / 10 \_\_\_\_ %

## Totals for Weight Training ICE Questions (Form B)

	A. Orient.	B. Warm Up	C. Workout Prog.	D. Wt. Room	E. Cardio Training	F. Flexibility Training	G. PW Consult.	H. Safe Envir.	I. Scope of Pr.	J. Referral Network	K. FAQ's	TOTAL
Marks												
Out of	11	39	26	46	24	9	16	46	5	12	10	244
Percent	%	%	%	%	%	%	%	%	%	%	%	%

**A passing mark is 75% for BCRPA Fitness Leaders and 85% for BCRPA Advanced Fitness Leaders for each section of the written exam.**  
 Answers may be found in your theory and weight training course manuals.

Name Of Evaluator:	Phone:
Address:	
Evaluator Signature:	Date:
Candidate Signature:	Date:

Evaluator

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



## BCRPA Weight Training Module ICE Resource List

1. E. Aaberg, *Muscle Mechanics*, Human Kinetics, 1998
2. *ACE Lifestyle and Weight Management Consultant Manual*, American Council on Exercise, 1996
3. *ACE Personal Trainer Manual (Second Edition)*, American Council on Exercise, 1996
4. *ACSM Resource Manual for Guidelines for Exercise Testing and Prescription*, American College of Sports Medicine (ACSM) (1998), Third Edition, Baltimore, MD: Williams and Wilkins
5. *ACSM Fitness Book, Second Edition*, Human Kinetics, 1998
6. *ACSM's Health / Fitness Facility Standards and Guidelines, Second Edition*, Human Kinetics, 1997
7. M.E. Allen, B. Pothier, *Take Charge of Your Neck: The Exercise Guide to a Healthy Neck*, University Back Center, SFU, 1990.
8. M.J. Alter, *Science of Flexibility (Second Edition)*, Human Kinetics, 1996
9. C. Bailey, *Smart Exercise; Burning Fat, Getting Fit*, Houghton Mifflin Company, 1996
10. T.R. Baechle, R.W. Earle, *Essentials of Strength Training and Conditioning*, Human Kinetics, 2000
11. T.R. Baechle, B.R. Groves, *Weight Training Steps to Success*, Human Kinetics, 1992
12. T.R. Baechle and R.W. Earle, *Fitness Weight Training*, Human Kinetics, 1995
13. *BC Health Guide; Healthwise Handbook*, Healthwise Publications, 2000
14. T.O. Bompa, L.J. Cornacchia, *Serious Strength Training*, Human Kinetics, 1998
15. D. Brooks, *Effective Strength Training*, Human Kinetics, 2001
16. D. Brooks, *Program Design for Personal Trainers*, Human Kinetics, 1998
17. D. Brooks, *Program Design; Bridging Theory Into Application*, Movers International Publishing, 1997
18. M. Brzycki, *A Practical Approach to Strength Training*.
19. *Canada's Food Guide to Healthy Eating*, Health Canada, 1999
20. P. Chek, *Program Design; Choosing Reps, Sets, Loads, Tempo and Rest Periods*, Paul Chek Seminars, 1995
21. J. Clark, *Full Life Fitness: A Complete Exercise Program for Mature Adults*, Human Kinetics, 1992
22. B.B. Cook, G.W. Stewart, *Strength Basics*, Human Kinetics, 1996
23. C.B. Corbin, R. Lindsay, *Concepts of Physical Fitness (Seventh Edition)*, Wm. C. Brown Publishers, 1991
24. F. Delavier, *Strength Training Anatomy*, Human Kinetics, 2001
25. J. E. Donnelly, *Living Anatomy (Second Edition)*, Human Kinetics, 1990
26. J. Engel, *Complete Canadian Health Guide*, Key Porter Books, 1999
27. M.S. Feigenbaum and M.L. Pollock, *Strength Training: Rationale for Current Guidelines for Adult Fitness Programs*, *Physician and Sports Medicine* 25:44 – 64
28. S.J. Fleck, W.J. Kraemer, *Designing Resistance Training Programs*, Human Kinetics, 1997
29. D. Gagnon, and L. Forrester, *IDEA Personal Trainer Business Book; A Step by Step Guide to Success*, IDEA
30. W.C. Grantham, R.W. Patterson, T.D. York, M.L. Winick, *Health Fitness Management*, Human Kinetics, 1998
31. H. Hall, *The New Back Doctor*, Seal Books, 1995
32. E.T. Howley & B.D. Franks, *Health Fitness Instructor's Handbook*, Human Kinetics, 1997 and 2003
33. Jones, Chester et al, *Weight Training Injury Trends*. *The Physician and Sportsmedicine*, Vol. 28, No. 7, July 2000, pps. 61 – 72
34. E. Michaels, *Encyclopedia of Health and Aging: A Complete Guide to Health and Well-Being in Later Years*, Prima Publishing, 1997
35. W. McArdle et al., *Exercise Physiology – Energy, Nutrition and Human Performance, Fourth Edition*, Lea & Febiger Publishers, 1996
36. T. Olds, K. Norton, *Pre-Exercise Health Screening Guide*, Human Kinetics, 1999
37. J. A. Peterson, C. X. Bryant, *Strength Training for Women*, Human Kinetics, 1995
38. *Physical Activity and Health; A Report of the Surgeon General*, US Department of Health and Human Services, 1996
39. D. Turner and M.R. Uhlemann, *A Legal Handbook for the Helping Professional (Second Edition)*, Sedgewick Society for Public Education, 1998
40. W. Wescott, *Building Strength and Stamina*, Human Kinetics, 1996 (Second Edition 2003)
41. W. Wescott, *Strength Fitness; Physiological Principles and Training Techniques (Fourth Edition)*, W.C. Brown Publishers, 1995
42. J. & P. Wharton, *The Wharton's Stretch Book*, Random House, 1996
43. J.H. Wilmore, D.L. Costill, *Physiology of Sport and Exercise*, Human Kinetics, 1994
44. *YMCA Healthy Back Book*, Human Kinetics, 1994
45. V.M. Zatsiorsky, *Science and Practice of Strength Training*, Human Kinetics, 1995

### Weight Training Course Manuals Available by contacting the BCRPA office:

1. Lifeworks Strength Training Manual; LifeWorks Inc.
2. Fitness Group Weight Training Manual