Chapter 1 Basic Physiology

1.) The most accurate form of measurement for long-term health and weight-management is (check one):

- ❑ Pounds on the scale
- ❑ Body Mass Index (BMI)
- ❑ Body Composition (lean mass vs. body-fat)

2.) The word "calorie" relates to:

- ❑ Combustion (to produce energy)
- ❑ Fat on your body
- ❑ Carbohydrate

3.) Make the following conversions:

Food	Grams	Calories
Fat	5	
Carbohydrate		40
Protein	20	

4.) Basal Metabolic Rate (BMR) is the:

- ❑ Minimum amount of calories required for vital bodily functions during a relaxed, reclined and waking state
- ❑ Amount of calories required to heat a one (1) cup of water one (1) degree Celsius in one (1) minute
- ❑ Amount of energy used during an intense workout

5.) The most healthy way to decrease body-fat is:

- ❑ Drop your caloric intake below 800 calories per day
- ❑ Through a slight negative energy balance where the caloric expenditure slightly exceeds the caloric intake
- ❑ Liposuction

6.) The body's first choice for fuel is:

- ❑ Stored fat
- ❑ Stored glycogen
- ❑ Stored protein

Chapter 1 Basic Physiology

7.) The body can convert fat into glucose to feed its nervous system and metabolism:

- ❑ True
- ❑ False

8.) The body can convert protein into glucose to feed its nervous system and metabolism:

- ❑ True
- ❑ False

9.) When caloric intake goes below BMR, as in commercial weight-loss programs, the body will:

- ❑ Perceive starvation and create a “survival” metabolism
- ❑ Burn muscle to fuel its energy requirements
- ❑ Slow down metabolism to reduce energy requirements
- ❑ Store even more body-fat to fend off the perceived threat of starvation
- ❑ All of the above

10.) People who continue to go on and off “restricted calorie” diet programs typically rebound to a higher weight after each round of dieting. This rebound effect is known as:

__ __-__ __ Dieting

Notes:

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Chapter 2 Digestion

I

1.) Your body is approximately 55%:(check one):

- ❑ Carbohydrate
- ❑ Protein
- ❑ Water

2.) All people process food in the exact same manner and speed:

- ❑ True
- ❑ False

3.) Chewing, swallowing and the muscular activity of the walls of the digestive tract itself are part of the:

- ❑ Chemical Phase
- ❑ Mechanical Phase
- ❑ Lunar Phase

4.) The final breakdown of food particles is part of the:

- ❑ Chemical Phase
- ❑ Mechanical Phase
- ❑ Lunar Phase

5.) The process of digestion actually begins when food enters:

- ❑ The mouth
- ❑ The large intestine
- ❑ The duodenum

6.) Which leaves the stomach most rapidly?

- ❑ Carbohydrates
- ❑ Fat
- ❑ Protein

7.) After leaving the stomach, the liquefied mass, called chime passes into the:

- ❑ Large intestine
- ❑ Small intestine
- ❑ Pancreas

Chapter 2 Digestion

8.) The finger-like projections called "villi" help to:

- ❑ Increase the intestinal absorption area by about 600-fold
- ❑ Convert fat into protein
- ❑ Increase red blood cells

9.) Draw lines to connect and demonstrate the digestion sequence:

1.	**Small Intestine**
2.	**Mouth**
3.	**Large Intestine**
4.	**Esophagus**
5.	**Stomach**

10.) The lymphatic vessels (tiny vessels in each villus) accept:

- ❑ Digested protein
- ❑ Digested carbohydrates
- ❑ Digested fat

Notes:

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Chapter 3 Carbohydrates

1.) The manufacture by plants of carbohydrates and oxygen from carbon dioxide and water in the presence of chlorophyll with sunlight as the energy source is called:

- ❑ Photosynthesis
- ❑ Photo-Op
- ❑ Digital photography

2.) Carbohydrates are complex molecules composed of:

- ❑ Carbon, Hydrogen and Oxygen
- ❑ Iron, Nitrogen and Uranium
- ❑ Electrons, Protons and Calcium

3.) For Americans interested in sensible weight-mgmt. through fitness, carbohydrates should provide about half to two-thirds of caloric energy intake:

- ❑ True
- ❑ False

4.) To reduce body-fat and maintain optimal health, most Americans should:

- ❑ Radically reduce carbohydrate intake as in Low-Carbohydrate meal plans
- ❑ Maintain a balance of all nutrients as in a holistic sense
- ❑ Radically increase carbohydrate intake as in Carbo-Loading

5.) Carbohydrates are broken down and transformed into:

- ❑ Simple proteins
- ❑ Simple fats
- ❑ Simple sugars

6.) After supplying Glucose and Glycogen to the brain, nervous system, muscle and liver, the excess is converted into:

- ❑ Fat, and stored throughout the body as a reserve source of energy
- ❑ Water, and stored in the bladder as a reserve source of energy
- ❑ Chlorophyll, and stored in the brain as a reserve source of energy

7.) Carbohydrate snacks that contain large amounts of refined sugars promote:

- ❑ A sudden rise in body-fat often followed by an “insulin spike”
- ❑ A sudden rise in blood-sugar often followed by an “insulin spike”
- ❑ A sudden change in blood type often followed by an “insulin spike”

Chapter 3 Carbohydrates

8.) An "insulin spike" rapidly lowers blood-sugar levels:

- ❑ True
- ❑ False

9.) Following an "insulin spike" most people feel:

- ❑ Happy, excited and ready for action
- ❑ Fatigued, nervous and sometimes dizzy with a headache
- ❑ Strong, aggressive and ready for a workout

10.) A total lack of carbohydrates can result in:

- ❑ Ketosis
- ❑ Loss of energy
- ❑ Depression
- ❑ Breakdown of lean body tissue
- ❑ All of the above

11.) The body can only store a limited amount of Glycogen:

- ❑ True
- ❑ False

12.) About one-third of the body's supply of glycogen is stored in the liver. The rest is stored:

- ❑ In the stomach
- ❑ In the muscles
- ❑ In the brain

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Chapter 4 Protein

1.) Proteins are necessary for:

- ❑ Glycogen
- ❑ Tissue Synthesis
- ❑ Hydration

2.) Protein is more important than all other nutrients in the body:

- ❑ True
- ❑ False

3.) Proteins are complex structures made up of:

- ❑ Amino Acids
- ❑ Citric Acids
- ❑ Carbonic Acids

4.) Always present in protein is:

- ❑ Magnesium
- ❑ Helium
- ❑ Nitrogen

5.) Every body requires the exact same amount of protein:

- ❑ True
- ❑ False

6.) "Limiting" Amino Acids (found in cereals, millets and grains) means:

- ❑ They exist in smaller quantities and not in proper balance
- ❑ They limit the amount of fat your body is able to store
- ❑ They limit the amount of water your body is able to absorb

7.) In discussing amino acids, the term _____ refers to a specific nutrient the body requires, but is not capable of producing:

- ❑ Essential
- ❑ Mandatory
- ❑ Unlimited

Chapter 4 Protein

8.) If one amino acid is supplied in a smaller amount than necessary, then the total amount of protein that can be synthesized from all other amino acids will be limited

- ❑ True
- ❑ False

9.) If one essential amino acid is completely absent, the other amino acids:

- ❑ Can not be utilized and are therefore wasted by the body
- ❑ Are stored as fat
- ❑ Converted into carbohydrate

10.) In order for protein synthesis to occur the body requires:

- ❑ Partial proteins
- ❑ Complete proteins
- ❑ Compressed proteins

Notes:

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Chapter 5 Fat

1.) All fats are unhealthy for you:

- ❑ True
- ❑ False

2.) Oil, lard, hydrogenated shortening, butter, margarine bacon and salad dressings are the most concentrated sources of fat:

- ❑ True
- ❑ False

3.) Sources of "invisible fat" include:

- ❑ Butter, Lard, Motor Oil
- ❑ Meats, Poultry, Fish, Eggs and Baked Products
- ❑ Water, Soft Drinks, Cotton Candy

4.) Fats also are known as:

- ❑ Lipids
- ❑ Linoleum
- ❑ Loopholes

5.) In your body, fat digests:

- ❑ Slowly
- ❑ The same as all other nutrients
- ❑ Quickly

6.) The body can only do one of two things with fats:

- ❑ It either stores fat or converts fat to energy
- ❑ It either converts fat into muscle or stores fat in the sweat glands
- ❑ It either stores fat or converts fat to protein

7.) The two dominant forms of fat in the body are known as:

- ❑ Cellulite and Love Handles
- ❑ Cis and Trans
- ❑ Sweat and Cholesterol

Chapter 5 Fat

8.) A prime place for your body to store fat is:

- ❑ The Liver
- ❑ The Kidneys
- ❑ The Stomach

9.) Lipotropic literally means:

- ❑ “To create the sweat”
- ❑ “To move the fat”
- ❑ “To build lean mass”

10.) A steady increase of fatty substances in the blood has been shown to:

- ❑ Increase cardiovascular disease
- ❑ Increase protein synthesis
- ❑ Increase joint stiffness

Notes:

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Chapter 6 Aerobic Exercise

1.) Spot reducing works only if:

- ❑ You use the “Thigh-Master” and Suzanne Somers Workout Video
- ❑ You workout the same “spot” everyday
- ❑ Applied toward thighs or abdominal areas
- ❑ None of the above – Spot reducing is a myth

2.) The body’s ability to breakdown sugar in the presence of oxygen is known as:

- ❑ Ketosis
- ❑ Lactic Acid
- ❑ Aerobic Glycolysis
- ❑ Anaerobic Glycolysis

3.) During aerobic glycolysis, oxygen inhibits

- ❑ The accumulation of sweat
- ❑ The accumulation of fat
- ❑ The accumulation of lactic acid

4.) In general, during aerobic glycolysis (continuous activity) the muscles and liver will supply glycogen:

- ❑ From 3 to 20 minutes
- ❑ From 4 to 6 hours
- ❑ From 6 to 12 hours

5.) Fat stores can fuel hours of exercise without running out and is, therefore, theoretically an unlimited source of energy:

- ❑ True
- ❑ False

6.) **After exercise has ceased:**

- ❑ Fat burning will immediately stop
- ❑ Fat burning may continue at an accelerated rate for some time (up to 4-6 hours)
- ❑ Fat will be converted into lean muscle mass

7.) **Fat can only be broken down in the presence of oxygen:**

- ❑ True
- ❑ False

Chapter 6 Aerobic Exercise

8.) In general, the preferred methodology for people interested in fat-loss is:

- ❑ Frequent sessions of long duration and consistent exercise
- ❑ Six 100-yard sprints each day
- ❑ Spot-reducing in specific areas of fat accumulation

9.) For most people, the most efficient fat-burning takes place when they are:

- ❑ In the sauna
- ❑ In Their Target Heart Rate Zone
- ❑ Eating thermogenic foods
- ❑ Spot reducing

10.) To maximize efficient fat-burning metabolism, your activities should involve:

- ❑ Only abdominal exercises
- ❑ Only upper body movements
- ❑ Only lower body exercises
- ❑ As many muscle groups as possible

Notes:

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Chapter 7 Anaerobic Exercise

1.) Exercise requires the body to dip into its stores of fuel, namely:

- ❑ Oxygen and sweat
- ❑ Glycogen and fat
- ❑ Lean mass and water
- ❑ Muscle and nervous system

2.) Exercise deficiency can lead to accelerated development of diseases associated with sedentary lifestyle (cardiovascular disease, obesity, intestinal disorders, apathy, insomnia, increased bone loss, etc**) :**

- ❑ True
- ❑ False

3.) Anaerobic metabolism refers to a series of chemical reactions in the body that:

- ❑ Do not require oxygen
- ❑ Do not require sunlight
- ❑ Do not require water
- ❑ Do not require glycogen

4.) ATP (adenosine triphosphate) is:

- ❑ Very limited in supply – about 30 seconds
- ❑ The most immediate source of chemical energy for muscular activity
- ❑ Useful in its rapid availability of energy
- ❑ All of the above

5.) After the allocated supply of ATP is exhausted, the body must find another fuel source for muscular activity to continue. That fuel source is the:

- ❑ Central Nervous System
- ❑ Lactic Acid System
- ❑ Digestive System
- ❑ Fuel Exhaust System

6.) Anaerobic Glycolysis means:

- ❑ The breakdown of **fat** without oxygen
- ❑ The breakdown of **protein** without oxygen
- ❑ The breakdown of **sugar** without oxygen
- ❑ The breakdown of **lean mass** without oxygen

Chapter 7 Anaerobic Exercise

7.) When carbohydrate is only partially broken down, one of the end products is:

- ❑ Lactic Acid
- ❑ Amino Acid
- ❑ Stomach Acid

8.) High levels of Lactic Acid in the muscle and blood can result in:

- ❑ A more powerful workout
- ❑ Muscular fatigue and soreness
- ❑ Better digestion
- ❑ Immediate increase in energy and stamina

9.) Basketball, Tennis, Football, Volleyball and Alpine Skiing are Anaerobic:

- ❑ True
- ❑ False

10.) The two primary anaerobic fuel systems are:

- ❑ The Central Nervous System and Body-Fat System
- ❑ The Amino Acid System and Muscle System
- ❑ The ATP System and Lactic Acid System
- ❑ None of the above

11.) Any activity less than 30 seconds will rely heavily on:

- ❑ The ATP System
- ❑ The Lactic Acid System
- ❑ The Amino Acid System
- ❑ The Digestive System

12.) Any activity more than 30 seconds up to 3 minutes will rely on_____ to re-synthesize ATP:

- ❑ The ATP System
- ❑ The Lactic Acid System
- ❑ The Amino Acid System
- ❑ The Digestive System

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Chapter 8 Vitamins

1.) **Vitamins are actually "true" foods:**

- ❑ True
- ❑ False

2.) **Vitamins supply energy:**

- ❑ True
- ❑ False

3.) **Vitamins turn body-fat into muscle:**

- ❑ True
- ❑ False

4.) **Vitamins typically combine with:**

- ❑ Enzymes
- ❑ Lactic Acid
- ❑ ATP
- ❑ Lean Mass

5.) **Generally speaking, vitamins must come from the foods we eat:**

- ❑ True
- ❑ False

6.) **The two classifications of vitamins are:**

- ❑ Sugar soluble and oxygen soluble
- ❑ Carbohydrate soluble and protein soluble
- ❑ Water soluble and fat soluble
- ❑ Oil soluble and gas soluble

7.) **Vitamins A, D, E and K are:**

- ❑ Fat Soluble
- ❑ Water Soluble
- ❑ Gas Soluble
- ❑ Protein Soluble

Chapter 8 Vitamins

8.) One of the most important characteristics of Vitamin E is its ability as:

- ❑ An energy booster
- ❑ An antioxidant
- ❑ Anti-depressant
- ❑ A meal replacement pill

9.) Fat soluble vitamins are more "heat-stable" than water soluble vitamins resulting in less damage during food preparation:

- ❑ True
- ❑ False

10.) Both Folic Acid and Vitamin B12 are important for:

- ❑ Eye sight
- ❑ Blood forming
- ❑ Hair thickness
- ❑ Skin rejuvenation

11.) Vitamin C is not stored or produced by the body:

- ❑ True
- ❑ False

Notes:

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Chapter 9 Minerals

1.) Minerals are classified into two (2) groups:

- ❑ Calcium and Magnesium
- ❑ Mineral oils and Mineral deposits
- ❑ Major minerals and Trace minerals
- ❑ Stalactites and stalagmites

2.) In the human body, the mineral present in the largest amount is:

- ❑ Calcium
- ❑ Zinc
- ❑ Magnesium
- ❑ Iron

3.) The physiological function of calcium is:

- ❑ Bone and teeth formation
- ❑ Helps contract and relax muscle
- ❑ Cell wall permeability – regulates fluid passage
- ❑ All of the above

4.) Sodium is a major:

- ❑ Electrolyte
- ❑ Amino Acid
- ❑ Contributor to fat cells
- ❑ Muscle group

5.) In the human body, sodium and potassium are associated with:

- ❑ Water balance
- ❑ Fat balance
- ❑ Muscle growth
- ❑ All of the above

6.) **Potassium is absorbed from:**

- ❑ The stomach
- ❑ The small intestine
- ❑ The large intestine
- ❑ The esophagus

Chapter 9 Minerals

7.) Iron plays a vital role in:

- ❑ Blood building and energy production
- ❑ Muscle recovery and fat depletion
- ❑ Bone building and water balance
- ❑ Brain function and central nervous system

8.) Selenium is a natural antioxidant:

- ❑ True
- ❑ False

9.) Chromium is necessary for normal glucose utilization:

- ❑ True
- ❑ False

10.) "Chelated" minerals refers to the action of one or more _____ attaching itself and completely surrounding a mineral.

- ❑ Fat cell
- ❑ Amino acid
- ❑ Electrolyte
- ❑ Blood cell

Notes:

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Chapter 10 Weight Training

1.) Strength and weight-training is important for fat-burning:

- ❑ True
- ❑ False

2.) Weight-training is usually an anaerobic activity:

- ❑ True
- ❑ False

3.) The primary fuel source during weight-training is:

- ❑ Vitamins and minerals
- ❑ Fat and water
- ❑ ATP and glucose
- ❑ None of the above

4.) For most women, muscular gain is not as great as in men – even though they make the same relative gains in strength:

- ❑ True
- ❑ False

5.) In static (Isometric) training, the muscle develops tension, but:

- ❑ Does not change length
- ❑ Does not burn glucose
- ❑ Does not strengthen
- ❑ Does not need blood flow

6.) A repetition is one actual movement of an exercise through a full range of motion:

- ❑ True
- ❑ False

Chapter 10 Weight Training

7.) A set is a group of repetitions done consecutively without rest:

- ❑ True
- ❑ False

8.) Muscle, exercised against resistance exceeding that normally encountered is known as:

- ❑ The Theory of Relativity
- ❑ The Overload Principle
- ❑ The O'Reilly Factor
- ❑ Psychological Overload

9.) Explain two (2) different ways to achieve muscle overload:

_____

_____

_____

_____

10.) All men and women should use the exact same resistance training program:

- ❑ True
- ❑ False

Notes:

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Chapter 11 Stress

1.) Stress has no effect and plays no role in weight-management:

- ❑ True
- ❑ False

2.) Check an example of "good" stress:

- ❑ Shock
- ❑ Mental
- ❑ Physical
- ❑ None of the above

3.) Name four (4) bodily reactions to stress:

_____

_____

_____

_____

4.) Throughout your body, all processes are precisely and automatically regulated by:

- ❑ Hormone and nerve activity
- ❑ Muscle and skeletal activity
- ❑ Digestion
- ❑ Protein synthesis

5.) List two (2) major life changes that might cause stress:

_____

_____

_____

Chapter 11 Stress

6.) Once a body perceives stress, it prepares for fight or flight:

- ❑ True
- ❑ False

7.) All three energy fuels (protein, carbohydrate and fat) are drawn upon in increased amounts during stress:

- ❑ True
- ❑ False

8.) Fasting is a good way to overcome stress:

- ❑ True
- ❑ False

9.) Stress has a detrimental effect on

- ❑ Muscles
- ❑ Vitamins
- ❑ Nutrients
- ❑ All of the above

10.) Exercise produces biochemical changes which alter psychological states,

- ❑ True
- ❑ False

11.) Regular exercise may increase the secretion of:

- ❑ Amino Acids
- ❑ Endorphins
- ❑ Glucose

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Chapter 12 The Danger Zone

1.) Which of the following could be considered "danger zones" due to their adverse effect on foods?

- ❑ Exposure to heat
- ❑ Smoke
- ❑ Soil depletion
- ❑ Sugar
- ❑ Some contraceptive
- ❑ Second-hand smoke

2.) Vitamin A is easily destroyed by heat and light:

- ❑ True
- ❑ False

3.) In most instances, higher quality foods are sold:

- ❑ Fresh
- ❑ Frozen
- ❑ Dehydrated

4.) BHA (Butylated hydroxyanisole) **and BHT** (butylated hydroxytoluene) **are artificial _____ used to keep fats from becoming rancid.**

- ❑ Antioxidants
- ❑ Amino acids
- ❑ Muscle proteins
- ❑ Sugars

5.) Flavorings, Stabilizers, Colorings, Sweeteners, Aroma Enhancers are all classified as:

- ❑ Food additives
- ❑ Junk food
- ❑ Food sugars
- ❑ Organic foods

Chapter 12 The Danger Zone

6.) The skin of fruits and vegetables typically contain at least _____ of the nutritional content,

- ❑ 0%
- ❑ 10%
- ❑ 50%
- ❑ 100%

7.) Sugar requires B vitamins to enable the body to metabolize it into glucose:

- ❑ True
- ❑ False

8.) High sugar intake can reduce the effectiveness of the body's healing mechanisms.

- ❑ True
- ❑ False

9.) The estrogen content in some oral contraceptives can result in lower than normal blood serum levels of:

- ❑ Vitamin B6 and Vitamin C
- ❑ H2O
- ❑ Fat molecules
- ❑ Vitamin B14 and Vitamin W

10.) Regular use of caffeine will typically result in:

- ❑ Increased respiration rate
- ❑ Increased urine output
- ❑ Increase of fatty acids into the blood stream
- ❑ All of the above

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