Princess Nora Bint Abdul Rahman University

College of

Department

MBS 343

Exercise Physiology

1st Midterm exam

2012-2013

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Student name:----------

Student ID number: ----------

I Multiple choice question: (5 points)

Choose only the **one** most appropriate answer:

1. A body movement produced by muscle action that increases energy expenditure is the :
    a. Biomechanics
    b. Physical Activity
    c. Exercise physiology
    d. Kinesiology
    e. None of the above

2. Type 1 skeletal muscles fibers are:
    a. Suitable for anaerobic exercise
    b. High activity of myosin ATPase
    c. Fatigue easily
    d. Both a & b
    e. None of the above

3. The general feature of skeletal muscles are:
    a. Involuntary and striated
    b. found in one place
    c. Voluntary and surround the body's internal organs
    d. Voluntary and striated
    e. non-striated and voluntary

4. Exercise physiology is a separate field of study from physiology because of its focus on:
    a. biology and chemistry
    b. consequences of movement
    c. functional dynamics
    d. both a & b
    e. both b & c

5. ATP result from oxidation of :
    a. carbohydrate
    b. proteins
    c. fat
    d. All of the above
    e. Both b & d

6. Carbohydrate is taken up by the muscles and liver and converted into:
    a. glycogen
    b. Fatty Acids
    c. Amino Acids
    d. Glucose
    e. Body fat

7. Fat oxidation requires ……. than carbohydrate oxidation:
    a. less oxygen and generates more energy
    b. more oxygen and generates less energy
    c. less oxygen and generates less energy
    d. more oxygen and generates more energy
    e. oxygen only when it needed

8. During Recovery the ……. is increased in blood:
    a. lactis acid
    b. ATP
    c. Cr-P
    d. muscle glycogen
    e. All of the above

9. …… It is the volume of air remaining in the lungs after maximal expiration:
    a. Inspiratory Reserve volume
    b. Tidal volume
    c. Residual volume
    d. Total lung capacity
    e. Functional Residual capacity

10. Vo2 max can be:
    a. Increase with age
    b. Affected by cardiac problem
    c. Increase with training
    d. Have a direct relation with lung diseases
    e. All of the above

Bonus question:

Feeling of weakness, hunger and dizziness after long time of exercise are all symptoms of:

a. Insufficient glycogen
b. High concentration of glucose
c. Decrease in carbohydrates
d. Increase of blood sugar
e. Decrease of glucose in the blood

II true or false question: (10 points)

1) Planned, structured, repetitive, and purposeful physical activity is called exercise. **T**

2) One of the skeletal muscles layers is Sarcolemma. **F Perimysium, Epimysium, Endomysium**

3) Mitochondrion is intracellular fluid in which ATP synthesis is taken place. **F cytoplasmic organs**

4) Myofibril is a cylindrical bundle of contractile filaments with in the skeletal muscles cell **T**

5) Lifting a heavy weight need phosphagen system only. **T**

6) Exercise physiology determines how the body response in function and structure to acute exercise stresses only. **F chronic physical activity.**

7) Nutrients that give us energy are Glucose, Fatty acids, and Amino Acids. **F Carbohydrates, Fats, and Proteins**

8) During Oxidative Energy System the glucose is breakdown into pyruvic acid. **F Anaerobic**

9) Exchange of oxygen and carbon dioxide takes place within the alveoli. **T**

10) Kyphosis is one of the factors affecting vital capacity in the lung. **T**

III List up to six points about the common characteristics of aerobic or Oxidative Energy System: (5 points)

The student can write any six point of this

- It also called " long –term energy system ".
- This occurs when adequate oxygen is available.
- This system can provide muscles with energy for unlimited period according to the supply of nutrients .
- This system is used during lower levels of activity when there is enough energy being delivered to the working muscles to clear away ALL the Pyruvic Acid.
- Produces ATP in mitochondria of cells.
- Can yield much more energy (ATP) than anaerobic systems.
- Is the primary method of energy production during endurance events.
- At lower levels of activity FATS can be used as a muscle fuel.
- During exercise, VO2 rises rapidly until "steady rate".
- breaks down carbs and fat to produce ATP(energy), CO2, H2O, and heat.
- CO2 transported by the body to lungs where it is exhaled, heat and water released through sweat.
- Aerobic exercises -continuous, rhythmic activity-large muscle groups.
- This preserves its stores of GLUCOSE for as long as possible.
- As a general rule, the more intense the activity the more GLUCOSE is used instead of FAT.
- Provides energy for 2minutes to 3 hours of work.
- Replenishes ATP slowly.