HUS 224

Exercise physiology

Supplementary exam

Feb 2019

TIME: 3 HRS

SUBJECT: HUMAN MOVEMENT SCIENCE

MARKS: 100

PAPER: EXERCISE PHYSIOLOGY AND SCIENCE

INTERNAL EXAMINERS

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INSTRUCTIONS: Answer All Questions
Question 1

1. You are the strength and conditioning coach for the UFH Cricket team. Please compile a resistance training program specific for strength endurance improvement for this team. Ensure that you provide at least 6 exercises that are in the correct order, correct intensity and volume.

2. Please describe, with examples, five training principles?

3. Name the five phases of strength training?

Question 2

1. Tando is working with Bafana Bafana and below is some examples of training sessions they have done last year. He needs your assistance to manipulate these interval training sessions. Please discuss how you would manipulate the session AND provide an example of the manipulated training session:
   a. 5km @ 80% MHR
   b. 50m x 4 repetitions x 4 sets @ 100% MHR. Rest 5 minutes after each set
   c. 200m x 5 sets
   d. 200m run followed by 200m jog, Repeat 10 times.
   e. 10km recovery run

2. By making use of training session examples, please describe what interval training, continuous training and interval circuit training is?

3. Please describe the neuromuscular changes that occur with resistance training?

4. Body building athletes believe that by inducing muscle fiber injuries that they will facilitate the growth of more muscle fiber types. By making use of your sport physiology knowledge explain what this phenomenon is and what research suggest with regards to this?

Question 3

1. Discuss the various cardiovascular adaptations that occur after endurance training? Please also relate each cardiovascular adaptation to how it improves endurance performance?

2. Below is a graph, please study the graph and answer the questions below:
a. Please explain what this graph is about? (2)
b. Please explain the various physiological reasons for this and what the implications are for athletes? (4)

3. The body always needs to maintain hemostasis; this is compromised when exercising in the heat. Keeping this in mind please explain the following:
   a. Please explain physiologically why it is difficult to exercise in extreme heat? (4)
   b. Cricket players use clothing in extreme heat and humidity (especially in India) to assist with temperature control- please explain how this clothing is assisting them? (4)
   c. Discuss two possible heat disorders associated with exercise in the heat? (2x2=4)

4. Please discuss the physiological responses to exercising in the cold? (2x2=4)

5. UFH mountain climbing club will be climbing Kilimanjaro in 6 months’ time. They have come to you to inquire what physiological challenges they might face. Keeping this in mind please answer the following questions:
   a. Explain the popular believe that at Kilimanjaro “there is less oxygen” (2)
   b. Explain then why breathing is then so difficult at Kilimanjaro? (2)
   c. Then lastly, explain two possible health risks that they might face? (2x2=4)

6. The department for the elderly has requested you to do a presentation with regards to senior citizens and sport participation. You have to explain the following:
   a. Please discuss how height, weight and body composition changes during aging? (3x2=6)
   b. Please motivate if senior citizens should be exposed to resistance training? Please motivate your answer? (2)