UNIVERSITY OF FORT HARE

APPLIED SPORT PHYSIOLOGY
HUS 227

SUPPLEMENTARY EXAMINATIONS

NOVEMBER

2024

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Time: 3 hours

Subject: HUS 227

Marks: 100

This paper consists of 8 pages including the cover page

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INSTRUCTIONS

ANSWER ALL THE QUESTIONS

SECTION A

QUESTION 1 (15)

Please choose the correct answer. (Only write down that the number and the correct letter)

1. **What is the normal respiratory rate for an adult?**
   A) 15-12 breathes per minute.
   B) 18-25 breathes per minutes.
   C) 60-100 beats per minute.
   D) 120 breathes per minutes.
2. **Aerobic training exercises are any activities that raise heartrate. The activity one is doing must be constant and continous for example:**
   A. Walking
   B. Hiking
   C. Swimming
   D. All of the above
3. **Blood flow to exercising muscle is increased with endurance training due to:**
   A. Increased capillarization of trained muscles.
   B. Greater recruitment of existing capillaries in trained muscles.
   C. More effective blood flow redistribution from inactive regions
   D. All of the above
4. **Blood pressure adaptations to endurance training:**
   A. Resting blood pressure decreases in borderline and hypertensive individuals.
   B. Mean arterial pressure is reduced at a given submaximal exercise intensity.
   C. At maximal exercise systolic blood pressure increases, where as diastolic blood pressure decreases.
   D. All of the above.
   E. None of the above.

5. **Research indicates that cardiorespiratory endurance and performance**:
   A. All athletes can benefit from maximizing their endurance.
   B. It should be the primary emphasis of training for health and fitness.
   C. It is the major defense against fatigue
   D. All of the above
6. **When you arrive at a high altitude, your body needs time to acclimate. This process typically takes 1 to 2 weeks, which your body produces more red blood cells to improve oxygen transport**.
   A. Hypoxic drive
   B. Hypobaric
   C. Internal blood pressure
   D. Adaptation period
7. **Effectors that change body temperature.**
   A. Sweat glands
   B. Smooth muscles
   C. Endocrine glands
   D. All of the above
8. **.....are far more sensitive to temperature change than peripheral thermoreceptors.**
   A. Preoptic-anterior
   B. Central peripheral receptors
   C. Central thermoreceptor
   D. Chemo receptors
   E. All of the above
9. **Exercise triggers the release of .....which increase the mobilization and use of fundus flourescein angiography for fuel.**
   A. Catecholamines
   B. Enzymes
   C. Energy supplier
   D. All of the above

10. It involves a rapid involuntary cycle of contraction and relaxation of muscles to increase heat production.

A. Shivering

B. Peripheral vasoconstriction

C. Thermogenesis

D. Reduced oxygen availability.

11. .....are blood vessels that carry oxygenated blood to parts of your body.

A. Pulmonary veins

B. Pulmonary arteries

C. None of the above.

D. All of the above

12. ..... carries deoxygenated blood from your heart to your lungs and they are the only arteries that carry deoxygenated blood.

A. Venous veins

B. Pulmonary artery

C. Pulmonary artery

D. None of the above

13. The process of taking on an adult form and becoming fully functional.

A. Maturation

B. Growth

C. Puberty

D. None of the above

14. Conditions at altitude is/are:

A. Reduced air temperature

B. Decreased water vapor pressure

C. Increase in solar radiation intensity

D. All of the above

15. Cardiac responses to altitude are:

A. Increase in HR and cardiac output peaks after 6-10 days at altitude

B. Acute exposure results in a decrease in stroke volume and an increase in heart rate.

C. A & B

D. Decrease in HR and cardiac output peaks after 6-10 days at altitude

E. None of the above

SECTION B **(65)**

QUESTION 2

2.1 Match the following questions or statements on column A to a correct answer on column B. (20)

Column A	**Column B**
1. Are the two membranes, one continuous one folded on itself, that surround each lobe of the lungs and separate your lungs from your chest wall.	a) Puberty
2. They help to regulate the temperature and humidity of inhaled air.	b) Development
3. Collects incoming air from your nose and mouth then passes down to the trachea	c) Growth
4. Is the passage leading from your throat to your lungs.	d) Metabolic response to altitude
5. Divides into two ----- one for each lung, which divides again into each lobe of your lungs.	e) Cardiovascular response to altitude
6. Each ---is like a balloon filled with sponge-like tissue. Air moves like in and out through one opening.	f) Chronic altitude exposure increases blood volume
7. Bronchial tubes are lined with small like very small hairs that move like	g) Respiratory response

waves.	
8. The smallest branches of the bronchial tubes are called.	h) Hypobaric adaptation
9. Are very small air sacs where the oxygen and carbon dioxide take place.	i) Muscle adaptation
10. Are blood vessels in the walls of alveoli.	j) HAPE
11. High-altitude pulmonary edema	k) Capillaries
12. Decrease in muscle fibre cross-sectional area and total muscle.	l) Alveoli
13. Relating to conditions of low air pressure and low oxygen content.	m) Bronchioles
14. Chemoreceptors are stimulated by low partial pressure.	n) Cilia
15. It triggers the release of erythropoeitin from the kidney to stimulate red blood cell production.	o) Lobe
16. Cardiac output is increased at rest and during submaximal exercise.	p) Bronchial
17. Increased reliance on carbohydrates for fuel at rest and during exercise	q) Windpipe
18. An increase in the size of the body and/or of its parts.	r) Throat
19. The differentiation of cells along specialized lines of function (functional changes with growth).	s) Sinuses
20. Development of secondary sex characteristics; sexual reproduction becomes possible.	t) Pleura

2.2 Fat are nutrients in food and the body uses to build cell membranes, nerve tissue and hormones. The body also uses fat as a fuel. Examine how fat is stored. (5)

2.3 Explain the differences in body composition between men and women and the roles of sex hormones in development. (7)

2.4 Discuss the differences in upper and lower body strength men and women (5)

2.5 Differentiate between the terms growth, development and maturation (6)

2.6 Explain in detail the role of hypothalamus in controlling the body temperature during hypothermia. (5)

2.7 State the role of respiratory function (6)

2.8 List the factors influencing the decline in VO2max with aging (6)

2.9 Discuss how aging affects the older people to respond to environmental stress that is caused by heat exposure (5)

SECTION C **(20)**

QUESTION 3

3.1 List the 5 special issues you need to consider in sex differences in sport (5)

3.2 State possible causes of menstrual dysfunction (5)

3.3 You are appointed as a strength and conditioning coach for a basketball team at the University of Venda. List the cardiorespiratory adaptations to endurance training. (7)

3.4 Explain in detail the menstrual dysfunction (3)

TOTAL MARK:100