SSSS 2018 Anatomy & Physiology Practice Test
Cardiovascular, Lymphatic, Excretory

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Section 1 - Multiple Choice
Section 2 - Short Answer
Section 3 - Flow of the Heart
Section 4 - Matching
Section 5 - True/False
Section 6 - Labelling

Take your time and pace yourself. Good luck!
Section 1 - Multiple Choice: Each correct answer earns one point.

1. What component is blood mostly consisted of?
   a) Plasma
   b) Erythrocytes
   c) Leukocytes
   d) Platelets

2. Which blood pH is not within the normal range?
   a) 7.37
   b) 7.2
   c) 7.45
   d) 7.35

3. How many known human blood groups systems are there?
   a) 3
   b) 12
   c) 14
   d) 35

4. Which of the following isn't a function of the cardiovascular system?
   a) Transporting lymph around the body
   b) Regulation of body temperature
   c) Removal of carbon dioxide
   d) Excretion of salts

5. Which of the following isn't a part of the lymph node?
   a) Trabecula
   b) Apex
   c) Cortex
   d) Capsule
6. Where are particularly large clusters of lymph nodes found?
   a) Thoracic regions
   b) Cervical regions
   c) Inguinal regions
   d) Axillary regions

7. Which one of the following is a hormone that helps regulate blood composition?
   a) Antidiuretic hormone
   b) Cortisol
   c) Estradiol
   d) Corticotropin-releasing hormone

8. Which one of the following is not a component of the excretory system?
   a) Ureters
   b) Urethra
   c) Rectum
   d) Kidneys

9. Which of the following places are lymph nodes not found in?
   a) Brain
   b) Small intestine
   c) Liver
   d) Pancreas

10. Which of the following types of white blood cells are the phagocytes in tissues that are in contact with the external environment?
    a) Neutrophils
    b) Dendritic cells
    c) Basophils
    d) Macrophages

**Section 2 - Short Answer: All or nothing, no partial credit unless specified.**

1. What are the two variables to cardiac output? (2 pts, 1 pt for each)
1. Stroke volume

2. Heartbeat

2. Write out the equation that calculates cardiac output. Abbreviations are allowed. (2 pts)

\[ CO = SV \times HR \]  
Cardiac Output = Stroke volume x Heart Rate

3. Name the two major lymphatic organs. (2 pts, 1 pt for each)

1. Red bone marrow

2. Thymus gland

4. List the following from largest to smallest: capillaries, arterioles, arteries (2 pts)

Capillaries, arterioles, arteries

5. Name the 3 groups of nodules within the body. (1 pt for each correct group listed, 3 pts in total)

Tonsils, Adenoids, Peyer's patches

6. State the name and function of 2. (1 pt for name, 1 pt for function)

Thymus gland, trains and develops T-lymphocytes (T cells)
7. State the name and function of 4. (1 pt for name, 1 pt for function)

Spleen, clears out old red blood cells and other foreign bodies from the bloodstream to help fight off infection

8. State the name and function of 6. (1 pt for name, 1 pt for function)

Bone marrow, generates lymphocytes from immature hematopoietic progenitor cells

9. State the name and function of 1. (1 pt for name, 1 pt for function)

Tonsils, first line of defense in the throat, prevent foreign objects from slipping into the lungs, produce white blood cells and antibodies (any of these answers are acceptable for function)

10. State the name and function of 5. (1 pt for name, 1 pt for function)

Lymph nodes, major sites of B and T lymphocytes, act as filters for foreign particles and cancer cells (either answer is acceptable for function)

Section 3 - Determine the flow of blood through the heart. Each correct blank filled earns ½ point.

vena cava → right atrium → tricuspid valve → right ventricle → pulmonary valve → pulmonary artery → pulmonary capillary bed → pulmonary veins → left atrium → bicuspid valve → left ventricle → aortic valve → aorta → arteries → arterioles → tissue capillaries → venules → veins → vena cava

Section 4 - Matching Section: Each correct answer earns one point.

Match the description to the disease/disorder. Not all descriptions may be used.

1. Lymphedema  
   a) Cardiac arrest in which the electrocardiogram shows a heart rhythm that should produce a pulse, but does not

2. Torsades de pointes  
   b) A faster than normal heart rate beginning above the heart's two lower chambers.

3. PEA  
   c) A specific form of polymorphic ventricular tachycardia in patients with a long QT interval, characterized by rapid, irregular QRS

4. Incontinence  
   d) A small, hard deposit that forms in the kidneys and is often painful when passed.

5. UTI  
   e) Cancer of the part of the immune system called the lymphatic system.

6. Hodgkin's lymphoma  

7. Glomerulonephritis  

8. Supraventricular tachycardia

9. Lymphadenopathy

10. Premature ventricular contractions

f) Swelling in an arm or leg caused by a lymphatic system blockage

g) Acute inflammation of the kidney, typically caused by an immune response

h) Lack of voluntary control over urination or defecation

i) Lymph nodes that are abnormal in size (e.g., greater than 1 cm) or consistency

j) An infection in any part of the urinary system, the kidneys, bladder, or urethra.

k) Extra heartbeats that begin in one of your heart’s two lower pumping chambers

Section 5 - True/False: Each correct answer earns one point.

1. Lymph flow is driven mainly by contraction of skeletal muscle in the lymphatic vessels. (T/F) F

2. Mean arterial pressure can be estimated as diastolic pressure times one-third pulse pressure. (T/F) F

3. Angiotensin II and vasopressin cause vasoconstriction. (T/F) T

4. Polyuria is the loss of tremendous amounts of salt and water to urine. (T/F) T

5. There are 4 major immunoglobulin classes. (T/F) F

6. Abnormal or unusual heart sounds are called heart murmurs. (T/F) T

7. Type O blood is considered the universal recipient. (T/F) F

8. The aorta is the largest artery of the body. (T/F) T

9. Peyer’s patches are found in the wall of the distal part of the small intestine. (T/F) T

10. SALT (skin-associated lymphatic tissue) is associated with the hypodermis of the skin. (T/F) F

Section 6 - Labelling: Each correct answer earns one point.

1. Tunica Intima

2. Internal Elastic Lamina
3. Tunica Media
4. External Elastic Lamina
5. Tunica Externa
6. Primary lymphoid follicle
7. Afferent lymphatic vessel
8. Paracortical area
9. Secondary lymphoid follicle
10. Germinal center
11. Cortex
12. Medullary cords
13. Medullary sinus
14. Artery
15. Vein
16. Efferent lymphatic vessel
17. Marginal sinus
18. Renal artery
19. Capsule
20. Papilla
21. Minor calyx
22. Major calyx
23. Cortex
24. Renal pyramid
25. Renal column
26. Renal pelvis