BIO 9 - REVIEW FOR EXAM 2

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CARDIOVASCULAR SYSTEM (Ch. 5-6)

1. Identify the different components of blood, and describe their structure, functions, and percentages.
2. Describe the role of concave surfaces, hemoglobin, bone marrow, and hematocrit in red blood cells.
3. Identify the antigens and antibodies produced among the different ABO and Rh blood groups.
4. Identify the location and functions of the heart, cardiac muscle, left atrium, right atrium, left ventricle, right ventricle, valves, pacemaker, coronary blood vessel, artery, capillary, and vein.
5. Describe the sequence of mechanical and electrical events in the cardiac cycle (systole & diastole).
6. Identify the heart rate, blood pressure, pulse points, pressure gradient, and EKG impulse in adults.
7. Trace the path of oxygenated & unoxygenated blood through the pulmonary & systemic divisions.
8. Describe the symptoms of anemia, sickle cell anemia, leukemia, thrombus, embolus, hemophilia, heart murmur, tachycardia, bradycardia, arrhythmia, varicose vein, hypertension, stroke, atherosclerosis, angina, and myocardial infarction.
9. Discuss the factors leading to heart disease, and how their risks can be reduced.

LYMPHATIC / IMMUNE SYSTEM (Ch. 7)

1. Discuss the functions of the lymphatic system, and its relationship to the cardiovascular system.
2. Distinguish lymph, inflammation, pus, lymph vessel, lymph node, tonsil, spleen, thymus gland, T- & B-lymphocyte, antigen, antibody, immunity, allergy, autoimmune disease, & immunodeficiency.
3. Describe the differences in cell structure and size among protozoans, bacteria, and viruses.
4. Distinguish natural immunity, vaccination, and passive immunity, and provide examples of each.
5. Discuss the cause, symptoms, transmission, risk behaviors, prevention, and testing of HIV disease.

RESPIRATORY SYSTEM (Ch. 8)

1. Identify the location & function of the nasal cavity & sinus, pharynx, epiglottis, larynx, Adam's apple, vocal cords, trachea, pulmonary cavities, lobes (of lung), bronchi, bronchiole, and alveoli.
2. Describe the action of the ribs & diaphragm in inspiration & expiration, & its chemical stimulus.
3. Identify respiratory rate, total lung capacity, vital capacity, residual volume, and tidal volume.
4. Describe the causes and symptoms of laryngitis, tracheotomy, hyperventilation, common cold, influenza, bronchitis, pneumonia, emphysema, tuberculosis, lung cancer, and second-hand smoking.

URINARY SYSTEM (Ch. 9)

1. Discuss the components of a homeostatic feedback system; and the role of excretion in homeostasis.
2. Identify the location and functions of the excretory organs, and the differences between the sexes.
3. Describe the size, number, location, and internal structure of the nephron.
4. Identify the fluids (and their volumes) that are filtered, reabsorbed, and excreted by the kidneys.
5. Describe the reflexive and conscious steps in urination, and the role of the 2 sphincter muscles.
6. Distinguish incontinence, enuresis, diuretics, kidney stone, dialysis, and kidney transplant.

SKELETAL SYSTEM (Ch. 10)

1. Identify the functions of bones, and the organic and inorganic component of true bone and cartilage.
2. Identify & locate the bones of the axial & appendicular skeletons (incl. pectoral & pelvic girdles).
3. Distinguish movable and immovable joints, ligament, tendon, suture, intervertebral disc, shaft, compact bone, spongy bone, and yellow and red bone marrow.
4. Distinguish the male and female hips; and the symptoms of osteoporosis and arthritis.

MUSCULAR SYSTEM (Ch. 11)

1. Distinguish skeletal, smooth, and cardiac muscles; & the changes during hypertrophy & atrophy.
2. Distinguish striation, insertion, origin, contraction, relaxation, prime mover, and antagonist.
3. Distinguish flex, extend, abduct, adduct, levate, depress, rotate, circumduct, dilate, constrict, tense.
4. Describe the location and general action of the major muscles (as discussed in class).