2011-12 Barge Anatomy 1st Semester Final Review Questions

Use the chapters in the textbook *Essentials of Anatomy & Physiology* by Martini & Bartholomew as a resource. Not everything in every chapter will be on the final.

Introduction (Chp 1; PowerPoint notes on classwebsite)

1. Can you describe the contribution of each of these historical figures?
   Hippocrates (Father of medicine = scientific observation, classifying diseases, moral & professional code-standards)
   Andreas Vesalius (father of modern anatomy: dissections of human cadavers; book with first accurate descriptions; rejected many of Galen's teachings)
   William Harvey (founder of modern physiology: book showing that heart is a pump)
   Henry Gray (publishes Gray's Anatomy – 1st comprehensive anatomy textbook for medical students 1858)
2. Can you identify major components of the different body systems and function pg 8-13
3. Can you define the following:
   Anatomy, physiology, anatomical position, axial skeleton, appendicular skeleton
4. Can you identify the following terms on the body and use in descriptions:
   coronal (frontal) plane, sagittal (lateral) plane, axial (transverse) plane
   superior, inferior, cranial, caudal, medial, lateral, proximal, distal, superficial, deep, plantar, palmar, anterior (ventral), posterior (dorsal)
5. Can you identify on the body and identify major organs in each body cavity:
   Dorsal, cranial, vertebral, ventral, thoracic, mediastinum, pleural, pericardial, abdominal, pelvic, abdominopelvic
6. Can you define homeostasis & feedback loop and identify 3 components (receptor, control center, effector); Can you describe the 2 types (negative, positive) of feedback?

Cell Structure & Function (Chp 3)

7. Would you be able to identify the major cellular components in a diagram? Look at Figure 3.2, page 59
8. Why do all biological membranes share the same bilayer structure?
9. Can you explain the difference between mitosis and meiosis?
10. What is a telomere and how is it related to cell aging?
11. What is the difference between apoptosis and necrosis?

Tissues (Chp 4; PowerPoint notes on class website)

12. Can you describe and identify the 4 major tissue classifications?
13. Can you explain how epithelium is classified and discuss at least three functions of this tissue type? Pg 93
14. Can you compare four different types of intercellular connections (junctions between cells in tissues)?
    Tight junction; gap junction; button desmosome; hemidesmosomes pg 91
15. Can you describe the function of connective tissue? Name at least two kinds of fibers found in connective tissue and discuss how their presence affects tissue functions. Pg 99
16. Can you describe the process of tissue repair? Pg 127
17. Can you identify pictures, location, and function of the following tissues?
    i. Simple squamous epithelium pg 95
    ii. Simple cuboidal epithelium pg 95
    iii. Simple columnar epithelium pg 95
    iv. Pseudostratified columnar epithelium pg 96
    v. Stratified squamous epithelium pg 96
    vi. Areolar connective tissue (Loose connective tissue) pg 102
    vii. Adipose pg 102

viii. Dense connective tissue pg 102
ix. Hyaline cartilage pg 104
x. Elastic cartilage pg 104
xi. Fibrocartilage pg 104
xii. Bone pg 105
xiii. Blood pg 103
xiv. Skeletal muscle pg 108
xv. Cardiac muscle pg 108
xvi. Smooth muscle pg 108
xvii. Nervous pg 109

Integumentary System (Chp 5; Powerpoint Notes on class website)

18. Can you explain the different layers of skin (3)?
19. Can you identify the 4 main functions of the skin?
20. Can you identify the components listed in Figure 5-1 pg 118?
21. What is the difference between basal cell carcinoma and squamous cell carcinoma and melanoma [where do they originate; metastasis; severity]?
22. Can you explain/identify the following components of skin?
    Merkels' Disks; Pacinian corpuscle; Free Nerve endings; Hair follicle ending
    Melanocyte; Melanin; Arrector pili muscle; Sebaceous gland

Skeletal System (Chp 6 Powerpoint Notes on class website)

21. Can you identify the bones of the skeleton? (pg 146-147)
22. Can you explain the following features of macroscopic features of bone:
    a. four general shapes of bone;
    b. difference between compact bone & spongy bone
    c. function & structure of periosteum
23. Can you explain stages of bone growth? (Fetal cartilage; epiphyseal plates; requirements for normal bone gowth)
24. Can you identify the following parts of bone tissue?
    Osteoblasts, Osteocytes, Osteoclasts
25. Can you explain the difference between the appendicular skeleton and the axial skeleton? Which bones are associated with each?
26. Can you describe the four steps involved with the injury and repair of bone? Pg 142-143
27. Can you explain the difference between osteoarthritis and rheumatoid arthritis?