

Integrative Biology 131 Examination I
October 13, 2003

Part I. Choose the best answer:

1. The layer closest to the sternum is the:
 - a. serous pericardium
 - b. epicardium
 - c. fibrous pericardium
 - d. myocardium

2. Which coat of an artery contains the endothelium?
 - a. tunica media
 - b. tunica adventitia
 - c. tunica intima
 - d. tunica brachialis

3. The interventricular sulcus houses the anterior and posterior coronary arteries. From where do they arise?
 - a. brachiocephalic artery
 - b. pulmonary artery
 - c. aortic arch
 - d. ascending aorta

4. Which of the following has a rich capillary bed?
 - a. hyaline cartilage
 - b. epithelium
 - c. skeletal muscle
 - d. an epiphyseal disc because it is the site of growing cartilage

5. Purkinje fibers:
 - a. are smaller than ordinary cardiac muscle cells
 - b. lie immediately beneath the epicardium
 - c. serve as the conducting mechanism of the heart
 - d. constitute the bundle of Hers

6. Papillary muscles are
 - a. covered by epicardium
 - b. attached to the chordae tendinae
 - c. made of smooth muscle
 - d. synonymous with Purkinje fibers

7. During systole the:
- a. semilunar valves close
 - b. atrioventricular valves open
 - c. left ventricular wall relaxes
 - d. atrioventricular valves close
8. The unpaired branches of the abdominal aorta include:
- a. the renal artery
 - b. the gonadal arteries
 - c. the common iliac artery
 - d. the coeliac artery which branches to supply the stomach, liver, pancreas and spleen.
9. The framework of compact bone consists of:
- a. Haversian systems
 - b. trabeculae
 - c. articular cartilage
 - d. yellow marrow
10. Blood vessels and nerves from the periosteum penetrate the compact bone through the:
- a. Volkmann's canals
 - b. Haversian canals
 - c. endosteum
 - d. medullary cavity
11. Paget's disease is an example of a disorder in which bone-producing and bone-destroying cells become uncoordinated in their activities. Which cells might be involved?
- a. astrocytes
 - b. Megakaryocytes
 - c. osteoclasts
 - d. normoblasts
12. An example of a bone formed by intramembranous ossification is the:
- a. humerus
 - b. femur
 - c. sternum
 - d. parietal

13. Concentric rings of calcified intercellular substance arranged around Haversian canals are called:
- a. lacunae
 - b. trabeculae
 - c. lamellae
 - d. canaliculi
14. During fracture repair, the new bone tissue that develops around the fractured area is called:
- a. callus
 - b. fracture hematoma
 - c. metaphysis
 - d. center of ossification
15. Which of the following bones is not involved in the formation of part of the orbit?
- a. ethmoid
 - b. sphenoid
 - c. lacrimal
 - d. temporal
16. The improper fusion of portions of which bone result in a cleft palate?
- a. maxilla
 - b. sphenoid
 - c. ethmoid
 - d. mandible
17. A patient with a lateral curvature of the spine has:
- a. kyphosis
 - b. lordosis
 - c. scoliosis
 - d. sway-back
18. A depression in or on a bone is known as a
- a. meatus
 - b. fossa
 - c. foramen
 - d. tubercle

19. Ribs attached directly to the sternum by means of costal cartilage are referred to as:
- a. floating
 - b. deviating
 - c. false
 - d. true
20. A Pott's fracture is one which involves the lateral bone of the leg. Which bone is this?
- a. femur
 - b. tibia
 - c. fibula
 - d. ischium
21. The olecranon process is a projection of the:
- a. tibia
 - b. radius
 - c. ulna
 - d. humerus
22. The enlarged, palpable, terminal portion of the spine of the scapula is called the:
- a. glenoid projection
 - b. supraspinatuous tubercle
 - c. acromial process
 - d. corocoid process
23. According to the sliding-filament theory of muscle contraction:
- a. the A band gets shorter
 - b. the Z lines move away from the A band
 - c. the Z lines move toward each other
 - d. the I bands change their length
24. Myofilaments are stacked in definite compartments partitioned by Z lines. Such compartments are called:
- a. sarcoplasm
 - b. sarcoplasmic reticulum
 - c. triads
 - d. sarcomeres

25. A cord of connective tissue that attaches a skeletal muscle to the periosteum of bone is called:
- a. aponeurosis
 - b. subserous fascia
 - c. deep fascia
 - d. tendon
26. During a muscular contraction:
- a. the origin moves toward the insertion
 - b. the insertion moves toward the origin
 - c. The muscular attachment of the pectoralis major to the humerus moves laterally.
 - d. The muscular attachment of the quadriceps femoris to the fibula tubercle flexes the knee.
27. A muscle that turn the palm upward is called a (an)
- a. plantaris
 - b. adductor
 - c. supinator
 - d. abductor
28. The facial muscle used to wrinkle the forehead is the:
- a. orbicularis oculi
 - b. mentalis innervated by the VII nerve
 - c. frontalis innervated by the III nerve
 - d. frontalis innervated by the VII nerve
29. A muscle used to abduct the arm is the:
- a. pectoralis major
 - b. brachialis
 - c. deltoid
 - d. brachioradialis
30. All the following are flexors of the knee except the:
- a. biceps femoris
 - b. semitendinosus
 - c. rectus femoris
 - d. semimembranosus

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31. The process by which all blood cells are formed is called:

- a. erythropoiesis
- b. leucopoiesis
- c. hemopoiesis
- d. platopoiesis

32. Cells that phagocytize disintegrating RBCs are found in the

- a. spleen
- b. kidney
- c. thymus gland
- d. connective tissue

33. Which of the following cells is not a granular leucocyte?

- a. neutrophil
- b. eosinophil (acidophil)
- c. lymphocyte
- d. basophil

34. Platelets

- a. produce megakaryocytes
- b. are phagocytic
- release* c. ~~produce~~ thromboplastin to aid in clotting blood
- d. have granules

35. The atrioventricular valve on the same side of the heart as the origin of the ascending aorta is the:

- a. pulmonary artery valve
- b. tricuspid valve
- c. mitral or bicuspid valve
- d. pulmonary vein valve

36. Which of the following are involved in pulmonary circulation?

- a. superior vena cava, right atrium, and left ventricle
- b. inferior vena cava, right atrium, and left ventricle
- c. right ventricle, pulmonary arteries, and left atrium
- d. left ventricle, aorta, and inferior vena cava

37. The first heart sound, the lub, is produced by the:
- a. closure of the semilunar valves
 - b. the opening of the semilunar valves
 - c. the closure of the atrioventricular valves
 - d. the opening of the coronary sinus valves
38. Which is not correct for the external oblique abdominal muscle or its aponeurosis?
- a. extends the vertebral column
 - b. protects and support abdominal viscera
 - c. forms the inguinal canal
 - d. has a deep inguinal ring which facilitates an inguinal hernia
39. The iliotibial band allows for the insertion of the
- a. gluteus medius
 - b. gluteus maximus
 - c. gluteus minimus
 - d. sartorius
40. Which is not a component of the femoral triangle?
- a. inguinal ligament
 - b. femoral nerve
 - c. femoral artery
 - d. iliac artery

Part II. Mark A for True; Mark B for False

- A 41. The quadriceps femoris flexes the thigh and extends the leg.
- B 42. The biceps femoris, part of the hamstrings, flexes the thigh and extends the knee.
- B 43. Acidophils contain acid phosphatase, are increased with allergies such as asthma, and produce heparin for clotting blood.

- A 44. All leukocytes represent the defense department of the body. 8.
- A 45. The reticulocyte is the precursor of the erythrocyte.
- B 46. Leukocytes spend most of their lives in the blood vessels.
- A 47. An aneurysm is a weakened wall of an artery or a vein.
- A 48. The thymus gland is essential for producing T4 lymphocytes whose number is altered in AIDS.
- A 49. The spleen is different from a lymph node because it filters blood and not lymph, a tissue fluid with lymphocytes.
- B 50. Both the spleen and lymph nodes produce lymphocytes which phagocytize foreign substances.

HAVE SELF RESPECT.

HAVE SELF CRITICISM.

DO SOMETHING FOR SOMEONE ELSE EACH DAY.