

INTEGRATIVE BIOLOGY 131

Examination I: Oct. 16, 2006

Version A

Bubble in your **SID** and **Version A** on your Scantron, or else your exam will not be recorded.

Part I. Please choose the best answer:

1. An exaggerated lateral curvature of the vertebral column is termed
 - a. kyphosis
 - b. lordosis
 - c. gomphosis
 - d. scoliosis

2. What is the purpose of a sesamoid bone?
 - a. allows more movement
 - b. strengthens and protects a joint
 - c. allows circumduction
 - d. strengthens ligaments

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4. Muscle contraction is triggered by the release of _____ ions.
 - a. phosphorus
 - b. chloride
 - c. sodium
 - d. calcium

5. The tibialis anterior muscle functions to _____ the foot.
 - a. evert
 - b. protract
 - c. plantar flex
 - d. invert

6. In order to extend the elbow the triceps insert on the
 - a. coronoid
 - b. olecranon process
 - c. radial tuberosity
 - d. lateral epicondyle

7. What is a collective term for the muscles that extend the knee joint?
 - a. hamstrings
 - b. Achilles?
 - c. quadriceps femoris
 - d. rectoris femoris

8. Ventricular systole refers to
 - a. a defective atrioventricular valve
 - b. the last beat of the heart at death
 - c. closure of the A-V valves
 - d. filling the ventricle with blood

9. What bone articulates with the glenoid fossa of the scapula?
 - a. radius
 - b. ulna
 - c. clavicle
 - d. humerus

10. Synovial joints allow
 - a. limited movement
 - b. no movement
 - c. wide range of movement
 - d. rotation only

11. A heart murmur is the
 - a. closure of the semilunar valves
 - b. incomplete closure of an atrioventricular valve
 - c. defective sinoatrial node
 - d. blockage of the coronary artery;

12. The significance of heart sounds is
 - a. contraction of Purkinje cells
 - b. contraction of the left ventricle
 - c. closure of heart valves
 - d. opening of heart valves

13. What is not a major component of every synovial joint?
 - a. articular cartilage
 - b. synovial membrane
 - c. synovial fluid
 - d. bursa

14. Which of the following changes dimensions during muscle contraction?
- myosin
 - actin
 - sarcomere
 - sarcosome
15. The coronary blood from the myocardium enters the heart
- through the superior vena cava
 - through the inferior vena cava
 - in the pulmonary veins
 - in the coronary sinus
16. One role of a fontanel is to
- allow for compression of the skull during childbirth
 - serve as ossification centers for the cranium
 - serve to lighten the skull
 - none of the above
17. The fibula
- forms an important part of the knee joint
 - articulates with the femur
 - helps bear the weight of the body
 - serves for muscle attachments
18. The levator palpebrae muscles
- close the eyelids
 - open the eyelids
 - raise the eyebrows
 - lower the eyebrows
19. The structural and functional unit of compact bone is the
- Haversian canal
 - Lacunae
 - Lamellae
 - Haversian system
20. The menisci of the knee joint consist of what kind of cartilage?
- fibrocartilage
 - hyaline cartilage
 - elastic cartilage
 - collagenous cartilage

21. Which is not part of the heart wall?
- myocardium
 - epicardium
 - parietal pericardium
 - endocardium
22. The lateral wall of the nasal cavity is part of the _____ bone.
- sphenoid
 - maxillary
 - ethmoid
 - lacrimal
23. The Achilles' tendon inserts on the
- talus
 - tibia
 - calcaneus
 - metatarsals
24. What muscles extend the thigh and flex the knee?
- quadriceps femoris
 - sartorius
 - hamstrings
 - gracilis
25. The flattened sheet of connective tissue fibers connecting muscle to bone is called
- a tendon
 - a ligament
 - an aponeurosis
 - epimysium
26. The middle cranial fossa contains the
- sella turcica which is part of the sphenoid bone
 - cribriform plate of the ethmoid bone
 - part of the parietal bone
 - foramen magnum
27. What is not correct about the sinoatrial node?
- mass of cells located inferior to the opening of the superior vena cava into the right atrium
 - it initiates each cardiac cycle
 - nerve impulses cannot alter the rate set by the SA node
 - the impulse initiated by the SA node spreads over both atria at the same time

28. The medial and lateral condyles are part of what joint?
- knee
 - temporo-mandibular
 - talus-tibial at the ankle
 - hip
29. Which is not correct about the mandible?
- it is the only bone of the skull with a freely movable joint
 - it has a condylar process that articulates with the temporal bone
 - the angle is the area where the ramus meets the body
 - it articulates with the maxillary bone
30. What is part of a semilunar valve?
- chordae tendinae
 - a cusp with a connective tissue nodule
 - a cusp indirectly attached to papillary muscle
 - pectinate muscle

Part II. A = True; B = False

31. An epiphysis is the shaft of the long bone. False
32. Osteoarthritis causes degeneration of the joint articular surface due to trauma.
True
33. Osteoclasts are stimulated to lay down bone in the presence of parathormone.
False
34. In general, leukocytes use the blood stream as a vehicle and perform their functions in the tissues. True
35. Erythropoiesis is the name for white blood cell formation from bone marrow into the circulation. False
36. Neutrophils and monocytes and lymphocytes are all phagocytic cells. False
37. Long bones are alive and have a rich blood supply the same as cartilage. False
38. Bone marrow can be sampled in the adult human in the shaft of long bones.
False
39. One major function of the largest mass of lymphatic tissue in the body is to filter lymph. False
40. Polymorphonuclear leukocytes include neutrophils, acidophils and basophils.
True
41. Platelets, RBCs and leucocytes are all formed in the bone marrow. True

42. The acetabulum is formed by the junctions of the ileum, ischium and pubic bones.
False
43. Fat returns to the venous system from the digestive system via the hepatic portal system. False
44. Reportedly 2 billion RBC are formed each second and will be destroyed in the liver and bone marrow after 120 days. False
45. The inguinal canal is present in both males and females. True
46. Endochondral bone formation lays down bone on cartilage. False
47. An epiphyseal disc changes its height during the growth of long bones. False
48. Long bone growth stops when the epiphyseal plate disappears. True
49. A Barr body is an inactive Y chromosome in the male acidophil. False
50. Ossification centers are found in both the diaphysis and epiphysis. True
51. The pectoralis major abducts the arm. False
52. The sigmoid sinus receives blood from the superior longitudinal sinus and conveys blood into the straight sinus. False
53. The elbow joint, the ankle joint and joints between the phalanges of the fingers are all examples of hinge joints. True
54. Endochondral bone formation takes place in the frontal bone. False
55. The coronary arteries are the first branches off the ascending aorta. True
56. The longest superficial vein in the lower extremity, sometimes used in coronary bypass surgery, is called subcutaneous vein. False
57. The rectus femoris muscle extends the vertebral column. False
58. Rheumatid arthritis, an autoimmune disease, begins with inflammation of the synovial membrane which forms excessive amounts of synovial fluid causing swelling of the joints. True
59. Platelets are involved in the blood clotting process because they liberate heparin. False
60. The latissimus dorsi originates from the intertubercular groove of the humerus. False