

INTEGRATIVE BIOLOGY 131

October 16, 2000, Exam I

Part I. Choose the best correct answer.

1. Bursae are
 - a. hyaline cartilage spurs
 - b. connective tissue sacs filled with synovial fluid
 - c. made of synovial membrane and increase friction
 - d. found in all joints
2. During walking, the tarsal bone which initially bears the weight of the lower extremity is the
 - a. calcaneous
 - b. first metatarsal
 - c. talus
 - d. navicular
3. The superior ridge of the pelvic girdle is known as the
 - a. public tubercle
 - b. ischial tuberosity
 - c. iliac crest
 - d. sacral crest
4. The inguinal ligament extends from the pubic tubercle to the
 - a. anterior iliac spine
 - b. posterior iliac spine
 - c. greater trochanter
 - d. obturator foramen
5. A Pott's fracture involves the lateral bone of the leg which is the
 - a. tibia
 - b. calcaneous
 - c. femur
 - d. fibula
6. The distal protuberance of the tibia at the ankle is the
 - a. lateral malleolus
 - b. tibial tuberosity
 - c. medial epicondyle
 - d. medial malleolus
7. The medial bone of the forearm is the
 - a. humerus
 - b. ulna
 - c. radius
 - d. radiolus
8. The socket which receives the head of the femur is the
 - a. glenoid cavity
 - b. acetabulum
 - c. popliteal fossa
 - d. cubital fossa

(1)

9. The framework of spongy bone is called
- a. trabeculae
 - b. Volkmann's canals
 - c. hyaline cartilage
 - d. elastic cartilage
10. During muscle contraction in the limbs
- a. the belly of the muscle remains unchanged
 - b. the insertion usually moves toward the origin
 - c. the origin usually moves toward the insertion
 - d. none of the above
11. The trapezius muscle is named on the basis of
- a. size
 - b. location
 - c. shape
 - d. action
12. The trapezius inserts on the
- a. ligamentum nuchae
 - b. clavicle - medial aspect
 - c. thoracic vertebral spines
 - d. spine and acromium of the scapula
13. The trapezius
- a. shrugs the shoulders
 - b. depresses the sternum
 - c. flexes the neck forward
 - d. rotates the humerus
14. The biceps
- a. flexes the arm
 - b. pronates the forearm
 - c. supinates the forearm
 - d. extends the arm
15. The facial muscle that wrinkles the forehead is the
- a. mentalis
 - b. occipitalis
 - c. zygomaticus
 - d. frontalis
16. A muscle used to adduct the arm is the
- a. pectoralis major
 - b. deltoid
 - c. triceps
 - d. sternocleidomastoid

17. All of the following are flexors of the knee except the
- a. biceps femoris
 - b. rectus femoris
 - c. semitendinosus
 - d. semimembranosus
18. All of the following flex the forearm except
- a. brachialis
 - b. brachioradialis
 - c. biceps brachii
 - d. triceps brachii
19. The longest muscle fibers in the body are found in the
- a. latissimus dorsi
 - b. quadriceps femoris
 - c. sartorius
 - d. gracilis
20. One of the most distinguishing features of cardiac muscle is the junction between muscle cells called
- a. sarcolemma
 - b. intercalated disc
 - c. sarcoplasmic reticulum
 - d. endoplasmic reticulum
21. According to the sliding filament theory of muscle contraction
- a. Z bands move away from A bands
 - b. I bands move toward each other
 - c. A bands move away from each other
 - d. thick myofilaments move away from each other
22. Which of these is incorrect? The obturator foramen
- a. is partially filled with connective tissue
 - b. is the largest foramen in the body
 - c. lightens the skull
 - d. lightens the pelvis
23. This bone does not articulate with the maxillary bone.
- a. palatine
 - b. zygomatic
 - c. nasal
 - d. mandible
24. The technical term for hunchback is
- a. kyphosis
 - b. lordosis
 - c. scoliosis
 - d. scoliosus
25. The costal cartilages are made of
- a. elastic cartilage
 - b. hyaline cartilage
 - c. fibrocartilage
 - d. spongy cartilage

26. The knuckles are the
- a. phalanges
 - b. heads of metacarpals
 - c. carpals
 - d. heads of metatarsals
27. The sternal angle is at the
- a. attachment of the 12th rib to the sternum
 - b. clavicular-sternal junction
 - c. xiphoid-body junction
 - d. junction of the second costal cartilage with the sternum
28. Bone forming cells are called
- a. osteocytes
 - b. osteoblasts
 - c. osteoclasts
 - d. osteoplasts
29. The middle ear is found in which bone?
- a. frontal
 - b. parietal
 - c. temporal
 - d. occipital
30. Volkmann's canals
- a. supply the blood vessels in the Haversian canals
 - b. run parallel to the Haversian canals
 - c. are found only in spongy bone
 - d. are lined with osteoclasts
31. Elastic cartilage is found in the
- a. external ear
 - b. knee joint
 - c. intervertebral disc
 - d. pubic symphysis
32. A cord of dense fibrous connective tissue that attaches skeletal muscle to periosteum is called a/an
- a. aponeurossi
 - b. deep fascia
 - c. ligament
 - d. tendon
33. Fascia refers to
- a. thin sheets of elastic fibrous connective tissue
 - b. thin sheets of collagenous fibrous connective tissue
 - c. strong cords of reticular fibers
 - d. rows of fat cells
34. Extension of the foot at the ankle is known as
- a. hyperextension
 - b. plantar flexion
 - c. dorsiflexion
 - d. abduction

35. The following symptoms fit what disease condition? Inflammation of synovial membrane, acute pain, tenderness, some immobility at the joint CF F
- bursitis
 - slipped disc
 - rheumatoid arthritis
 - osteoarthritis
36. Which statement is not true about a synovial membrane?
- it lubricates the joint
 - it nourishes the articular cartilage
 - it is composed of loose connective tissue and synovial cells
 - it forms the outer layer of the articular capsule
37. Which are not formed elements in the blood?
- platelets
 - red blood cells
 - leukocytes
 - chondrocytes
38. Plasma proteins do not include
- glycogen
 - globulin
 - fibrinogen
 - albumen
39. Granular white blood cells are formed in the
- lymphatic tissue
 - thymus
 - bone marrow
 - tonsils
40. If you have slow clotting time, you may have too few
- erythrocytes
 - leukocytes
 - thrombocytes
 - osteocytes

Part II. Mark A for "true" and B for "false"

41. Nongranular white blood cells are called neutrophils and lymphocytes.
42. The functions of nongranular leukocytes include phagocytic and antibody formation.
43. There are about 5 million per cubic millimeter WBC and 5 thousand per cubic millimeter RBC.
44. The general term that means the formation of blood cells is erythropoiesis.
45. From the right ventricle the blood flows into the right atrium in the adult.
46. The three vessels leading into the right atrium are the pulmonary artery, the inferior vena cava and the coronary sinus.
47. The first branch off the ascending aorta is the brachiocephalic artery. (5) *puig*

- B 48. If you wished to get a substance quickly into the brain, you would inject your fluid into the right ventricle of the heart to pump the fluid into the brain.
- A 49. The muscle of the heart is called cardiac muscle and has similar structures to skeletal muscle such as myosin, actin and Z bands.
- A 50. The closure of the valves in the aorta are the second heart sounds.
- B 51. The conduction tissue in the heart is called the myocardium.
- B 52. If a physician wanted to run a catheter through an arm vein into the heart, the catheter would enter the heart through the inferior vena cava.
- B 53. The pacemaker of the heart is located in the right auricle.
- A 54. Four pulmonary veins lead into the left atrium.
- A 55. Bones constituting the cheek bone include the maxillary, zygomatic and temporal.
- A 56. A slipped disc is the rupture of the inner soft tissue (nucleus pulposus) through a fibrocartilage ring.
- B 57. The humerus is most frequently fractured superior to the lesser tubercle.
- B 58. The "funny bone" is really the ulnar nerve which is lateral to the olecranon process.
- A 59. Sesamoid bones are found in tendons.
- A 60. The inguinal canal is superior to the inguinal ligament and carries the spermatic cord in the male and round ligament in the female.
- A 61. Most joints in the body are synovial joints.
- B 62. Cartilage has a healthy blood supply as do bones.
- B 63. Cardiac muscle is more subject to fatigue than skeletal muscle.
- A 64. Muscle cells are the same as muscle fibers.
- A 65. Both males and females have levator ani muscles which are found in the pelvic floor.
- B 66. The deltoid originates only on the acromion and spine of the scapula.
- B 67. Eosinophils or acidophils are the most common granular leukocytes.
- B 68. After spinning blood in a hematocrit tube, the formed elements are mixed with the plasma.
- B 69. A reticulocyte count indicated that 5% of the red blood cells were reticulocytes. Is this a normal count?
- B 70. Platelets are cells that developed in the bone marrow to aid blood coagulation.

YOUR BODY IS YOUR "HOUSE" WITH ALL THE ANATOMICAL ANSWERS FOR A LIFETIME