

University of Ottawa  
ANP 1106A  
Midterm #1

Date: January 30, 2019  
Time: 14:30 h  
Duration: 1 hr 20 min

Instructor:  
Dr. J. Carnegie

**INSTRUCTIONS:**

1. 40 multiple choice questions (1 mark/1 correct answer per question) plus 20 marks for fill-in-the-blank questions and diagram labeling.
2. Please use the computer sheet for the multiple choice questions, but answer the remaining questions right on the exam itself.
3. Please put your name and student number at the top of this page and on your computer sheet and on the top of pages 7 and 9. Hand in pages 7-10 when you have finished. You may keep pages 1-6; correct answers for the MCQs will be posted.
4. Make sure this exam is complete. This exam contains **10** pages. The excuse of missing a page will not be accepted after the examination.

1. All of the following influence joint stability EXCEPT:

- A. shape of articulating surfaces
- B. bone density
- C. muscle tone
- D. degree of ligament stretch

2. Pulling the tongue back into the mouth after sticking it out is called:

- A. rotation
- B. inversion
- C. supination
- D. retraction
- E. protraction

3. In the anatomical position, the knee is ..... to the pelvis, but ..... to the ankle.

- A. distal; inferior
- B. anterior; medial
- C. proximal; distal
- D. medial; distal
- E. distal; proximal

4. Which of these directional terms are paired most appropriately as opposites?

- A. superficial and deep
- B. medial and proximal
- C. distal and lateral
- D. superior and posterior
- E. anterior and inferior

5. Which of the following is TRUE?
- A. The protein found in the largest amounts in the outermost layer of epidermal cells is collagen.
  - B. A first-degree burn involves damage to only the epidermis of the skin.
  - C. The epidermis comprises the thickest portion of the skin.
  - D. Melanocytes are found in the deepest layer of the dermis.
  - E. The stratum corneum of the skin is a zone of approximately four layers of viable cells that are able to synthesize proteins that keep the outer layer of the skin soft and smooth.
6. Which of the following descriptions concerning the layers of epidermis is correct?
- A. stratum basale - found only in thick skin
  - B. stratum granulosum - actively mitotic cells are located here
  - Ⓒ stratum corneum - most superficial epidermal layer
  - D. stratum spinosum - adjacent to the dermis
  - E. stratum spinosum - found in between the stratum granulosum and the stratum corneum
7. Which structure is NOT associated with a hair?
- A. shaft
  - B. cortex
  - Ⓒ eponychium
  - D. matrix
  - E. cuticle
8. The layer of translucent cells that is absent in thin skin is:
- A. stratum basale
  - B. stratum corneum
  - Ⓒ stratum lucidum
  - D. stratum spinosum
  - E. stratum granulosum
9. The function of keratin is to:
- A. make bone hard
  - B. make skin tough and waterproof
  - Ⓒ protect skin from ultraviolet light
  - D. provide added pigment to the skin of Asian races
  - E. provide nourishment to the epidermal cells
10. In which of these areas is thick skin found?
- A. back of the wrist
  - B. abdomen
  - C. shin
  - D. bridge of the nose
  - Ⓔ heel of the foot
11. During fetal development, which of the following bones is formed via intramembranous ossification?
- ✱ A. occipital
  - B. scapula
  - Ⓒ femur
  - D. manubrium
  - E. ulna
12. A carpal bone is an example of a:
- A. long bone
  - Ⓒ short bone
  - C. flat bone
  - D. irregular bone
  - E. sesamoid bone
13. Which of the following statements is TRUE?
- ✱ A. Osteoblasts deposit bone while osteocytes resorb bone.
  - B. Perichondrium covers the surface of long bones.
  - Ⓒ Blood vessels are found in bone but not in cartilage.
  - D. Bones that do not fit into any category are classified as miscellaneous bones.
  - E. The hallux is an irregular bone.

14. The central canal of an osteon contains:

- A. bone marrow
- B. osteocytes
- C. concentric lamellae
- D. lacunae
- E. blood vessels

15. Endosteum is in all of these places EXCEPT:

- A. around the exterior of the femur
- B. on the trabeculae of spongy bone
- C. lining the central canal of an osteon
- D. often directly touching the bone marrow

16. The small spaces in bone tissue that are holes in which osteocytes live are called:

- A. lacunae
- B. Volkmann's canals
- C. Haversian canals
- D. trabeculae
- E. sinuses

17. The most inferior part of the sternum is the:

- A. xiphoid process
- B. body
- C. manubrium
- D. ala

18. Which of the following statements is TRUE?

- A. The manubrium articulates with the first three thoracic ribs.
- B. The scapulae articulate with the vertebrae at the level of T4 and T5.
- C. The posterior ligament of the vertebral column is broader and stronger than the anterior ligament.
- D. There are 14 phalanges in each hand and also in each foot.
- E. The sternal angle links the body of the sternum with the xiphoid process.

19. The paired L-shaped bones that contribute to the hard palate are the ..... bones.

- A. ethmoid
- B. sphenoid
- C. palatine
- D. buccal
- E. parietal

20. Which of the following best describes the sacrum?

- A. It articulates with the 12th thoracic vertebra.
- B. It is not part of the axial skeleton.
- C. It consists of five fused vertebrae.
- D. It is also known as the tailbone.
- E. B & C

21. The zygomatic bones articulate with zygomatic processes extending from the:

- A. frontal, parietal and temporal bones
- B. maxillary, nasal and ethmoid bones
- C. frontal, maxillary and temporal bones
- D. nasal, maxillary and parietal bones
- E. mandibular, frontal and ethmoid bones

22. Your anatomy instructor asks you to locate the lateral malleolus. What bone will you pick up?

- A. calcaneus
- B. ulna
- C. fibula
- D. tibia
- E. radius

23. The parietal bone is an example of a ..... bone.
- A. long
  - B. short
  - C. flat
  - D. irregular
  - E. sesamoid
24. In the epiphyseal plate, cartilage grows:
- A. from the diaphysis to the epiphysis
  - B. from the epiphysis to the diaphysis
  - C. from the edges inward
  - D. in a circular fashion
25. The pelvic girdle does NOT include the:
- A. sacrum
  - B. ilium
  - C. ischium
  - D. pubis
26. The external auditory meatus and the styloid process are part of the ..... bone.
- A. parietal
  - B. temporal
  - C. sphenoid
  - D. frontal
  - E. none of the above
27. The name of the first cervical vertebra is:
- A. atlas
  - B. axis
  - C. occiput
  - D. hallux
28. The structure that separates the condylar and coronoid processes of the mandible is the:
- A. mandibular ramus
  - B. mandibular angle
  - C. styloid process
  - D. mandibular notch
  - E. mandibular canal
29. In the elbow joint, the trochlea articulates with the:
- A. humerus
  - B. radius
  - C. ulna
  - D. capitulum
30. The distal end of the tibia articulates with the:
- A. talus
  - B. fibula
  - C. patella
  - D. calcaneus
  - E. A and B
31. The dens is found on:
- A. axis
  - B. the first thoracic vertebra
  - C. the sacrum
  - D. the coccyx
  - E. the tubercles of ribs
32. The annulus fibrosus and nucleus pulposus are structures associated with the:
- A. intervertebral discs
  - B. knee and elbow
  - C. should and hip
  - D. carpal and tarsal bones

33. The clavicle articulates with the scapula at the:

- A. acromion process
- B. coracoid process
- C. glenoid tuberosity
- D. scapular spine
- E. subscapular fossa

34. Thoracic vertebrae can be distinguished from other vertebrae by the presence of:

- ~~A~~ A. transverse processes
- B. transverse foramina
- C. superior and inferior costal facets
- D. notched spinous processes
- E. costal cartilages

35. Differences in the skeletons of males and females can best be seen in the characteristics of the:

- A. skull
- B. pelvis
- C. sacrum
- D. teeth
- E. thoracic cage

36. Which of the following is a bone marking name that indicates a projection that helps to form joints?

- ~~A~~ A. meatus
- ~~B~~ B. ramus
- ~~C~~ C. foramen
- ~~D~~ D. fossa
- E. epicondyle

37. Pollex is another name for the:

- A. thumb
- B. 3rd cervical vertebra
- C. terminal portion of the sternum
- D. big toe
- E. horseshoe-shaped bone found just under the chin

38. The fibrous capsule of synovial joints is continuous with the ..... of the two bones forming the joint.

- A. articular cartilage
- B. collateral ligaments
- C. periosteum
- D. bursae
- E. menisci

39. The shoulder joint is a:

- A. hinge joint
- B. ball and socket joint
- C. synovial joint
- D. peg in socket joint
- E. B) and C)

40. The term eversion is applied only to movement of the:

- A. knee
- B. vertebral column
- C. wrist
- D. elbow
- E. ankle