

University of Ottawa

ANP 1106A

Midterm #1

Date: January 30, 2013
Time: 11:30 h
Duration: 1 hr 20 min

Instructor:
Dr. J. Carnegie

INSTRUCTIONS:

1. 42 multiple choice questions (1 mark/1 correct answer per question) plus, 7 fill-in-the-blank questions and 13 marks worth of diagram-related questions: total = 62 marks.
2. Please answer the multiple choice questions using the computer sheet and all remaining questions right on the exam pages themselves.
3. Please put your name and student number at the top of this page and your name and student number on the computer sheet and hand in everything when you have finished. Your exam will be returned to you after it has been corrected.
4. Make sure this exam is complete. This exam contains 11 pages. The excuse of missing a page will not be accepted after the examination.

1. Each of the following bones contributes to the formation of the orbit EXCEPT the:

- A. lacrimal bone
- B. nasal bone
- C. frontal bone
- D. sphenoid bone
- E. palatine bone

2. Vertebrae are considered to be bones.

- A. long
- B. flat
- C. short
- D. irregular
- E. circular

3. Which of the following statements best describes what fingernails actually are?

- A. a modification of the epidermis
- B. identical to hair, but contain ten times as much keratin
- C. extensions of the carpal bones
- D. have nothing to do with skin

4. 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

5. Which of the following statements is TRUE about MELANIN?

- A. It is produced by melanocytes and is stored in keratinocytes
- B. It is present in carrots and other orange plant foods
- C. It makes skin tough and waterproof
- D. It connects the epidermis to dermis

6. Which of the following statements is TRUE?

- A. Bones are classified by whether they are weight-bearing or protective in function.
- B. All bones formed by intramembranous ossification are irregular bones.
- C. The periosteum is a tissue that serves only to protect the bone because it is not supplied with nerves or blood vessels.
- D. Trabeculae are composed of lamellar bone.
- E. In newborn infants, the medullary cavity and all areas of spongy bone contain yellow bone marrow.

7. 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

8. 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.

9. Choose the statement that is most correct about the orbits.

- A. The orbits are formed by both facial and cranial bones.
- B. The orbits contain only facial bones.
- C. The orbits contain only cranial bones.
- D. The orbits are made entirely of cartilage.

10. Jane has an upper respiratory infection and begins to feel pain in her teeth. This is a good indication that the infection is located in the:

- A. frontal sinuses
- B. sphenoid bone
- C. temporal bone
- D. maxillary sinuses
- E. zygomatic bones

11. Despite its apparent durability, the dermis is subject to tearing. How might a person know that the dermis has been stretched to the point of being torn?

- A. Because the pain is acute, due to the large number of Meissner's corpuscles.
- B. By the appearance of striae that are visible on the surface of the skin.
- C. The blood vessels in the dermis rupture and the blood passes through the tissue causing "black and blue" marks.
- D. The stretching causes the tension lines to disappear.

12. Which structure is NOT associated with a hair?

- A. shaft
- B. cortex
- C. eponychium
- D. matrix
- E. cuticle

13. The distal end of the tibia articulates with the:

- A. talus
- B. fibula
- C. patella
- D. calcaneus
- E. A and B

14. The superior nasal concha is part of which bone?

- A. nasal
- B. ethmoid
- C. vomer
- D. sphenoid
- E. maxilla

15. What is the first threat to life from a massive third-degree burn?

- A. infection
- B. catastrophic fluid loss
- C. unbearable pain
- D. loss of immune function

16. The canal that runs through the core of each osteon (the Haversian canal) is the site of _____.

- A. cartilage and interstitial lamellae
- B. osteoclasts and osteoblasts
- C. yellow marrow and spicules
- D. blood vessels and nerve fibers

17. Acne is a disorder associated with _____.

- A. sweat glands
- B. sebaceous glands
- C. sudoriferous glands
- D. ceruminous glands

18. Articular cartilage found at the ends of the long bones serves to _____.

- A. attach tendons
- B. produce red blood cells (hematopoiesis)
- C. provide a smooth surface at the ends of the synovial joints
- D. form the synovial membrane

19. Movement of a limb away from the median plane of the body along the frontal plane is called:

- A. abduction
- B. adduction
- C. inversion
- D. circumduction
- E. extension

20. The structure that separates the condylar and coronoid processes of the mandible is the:

- A. ramus
- B. angle
- C. styloid process
- D. mandibular notch
- E. mandibular canal

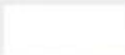
21. In the elbow joint, the trochlea articulates with the:

- A. humerus
- B. radius
- C. ulna
- D. all of the above

22. Thoracic vertebrae differ from the other vertebrae in that they have _____.

- A. no transverse processes
- B. facets for attachment of ribs
- C. transverse foramina
- D. no intervertebral discs

23. The hard palate is composed of contributions from the & bones?



- A. ethmoid, palatine
- B. maxillary, sphenoid
- C. ethmoid, sphenoid
- D. palatine, maxillary
- E. sphenoid, palatine

24. Within the dermis, lines that indicate areas of separation between bundles of collagen fibers and that are important to surgeons when making a cut through the body wall are called:

- A. striae
- B. cleavage or tension lines
- C. dermal ridges
- D. flexure lines
- E. dermal papillae

25. Bones are constantly undergoing resorption for various reasons. Which of the following cells accomplishes this process?

- A. osteoclast
- B. osteocyte
- C. osteoblast
- D. stem cell

26. Articulations permitting only slight degrees of movement are _____.

- A. amphiarthroses
- B. synarthroses
- C. diarthroses
- D. synovial joints

27. 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

28. Which of the following groupings of abdominopelvic cavities is medial?

- A. hypogastric, umbilical, epigastric
- B. hypochondriac, hypogastric, umbilical
- C. hypochondriac, lumbar, inguinal
- D. lumbar, umbilical, iliac
- E. iliac, umbilical, hypochondriac

29. 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

30. All of the following influence joint stability EXCEPT:

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

31. In thick skin, the order of the cells of the epidermis, from DEEP to SUPERFICIAL, are:

- A. stratum corneum, stratum lucidum, stratum spinosum, stratum granulosum, stratum basale
- B. stratum corneum, stratum spinosum, stratum lucidum, stratum granulosum, stratum basale
- C. stratum basale, stratum spinosum, stratum granulosum, stratum lucidum, stratum corneum
- D. stratum granulosum, stratum basale, stratum lucidum, stratum spinosum, stratum corneum
- E. stratum basale, stratum corneum, stratum spinosum, stratum lucidum, stratum granulosum

32. Which of the following is the abnormal curve often seen in pregnant women as they attempt to preserve their center of gravity toward the end of the pregnancy?

- A. kyphosis
- B. hunchback
- C. scoliosis
- D. lordosis

33. A small round projection on a bone for the attachment of a muscle is called a:

- A. facet
- B. ramus
- C. fossa
- D. phalanx
- E. tubercle

34. 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

35. Which of the following statements about the lower limb is FALSE?

- A. The bones of the foot are divided into groups called tarsal bones, metatarsal bones and phalanges.
- B. In the anatomical position, the tibia is found medial to the fibula.
- C. The interosseus membrane of the leg is between the tibia and the fibula.
- D. The leg bones include only the tibia and the fibula.
- E. The fibula participates in the formation of the knee joint.

36. Which of the following statements is/are TRUE with regard to a **first-degree burn**?

- A. It is a full-thickness burn in which the epidermal and dermal layers are destroyed.
- B. Regeneration is impossible; skin grafting is required.
- C. Pain is absent because nerve endings in the area are destroyed.
- D. All of the above are true.
- E. None of the above is true.

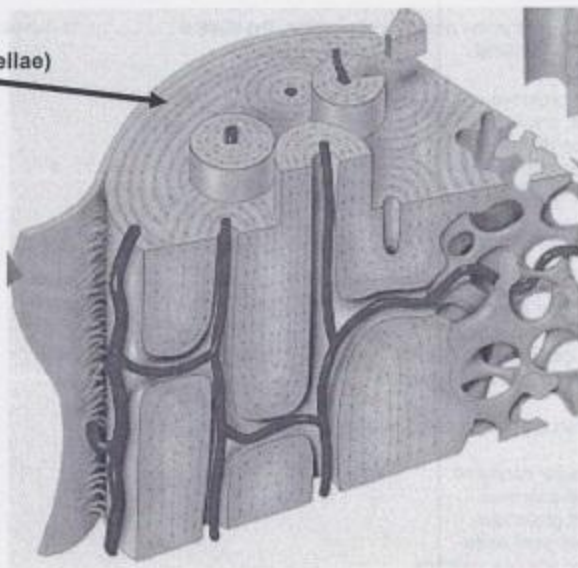
37. In the knee joint, body weight is transferred from the femur to the:
- A. tibia
 - B. fibula
 - C. both tibia and fibula
 - D. patella
 - E. tibia, fibula and patella
38. The prominent bulge just posterior and inferior to the external auditory meatus that anatomy students can feel on their own bodies is the:
- A. maxillary bone
 - B. lacrimal bone
 - C. occipital condyle
 - D. mastoid process
 - E. external occipital protuberance
39. Which of the following statements is TRUE?
- A. In anatomical position, the lateral bone of the forearm is the ulna.
 - B. There are seven cervical, twelve thoracic and five lumbar vertebrae.
 - C. The posterior ligament of the vertebral column is broader and stronger than the anterior ligament.
 - D. The sternal angle links the body of the sternum with the xiphoid process.
 - E. The suture that connects the occipital bone with the two parietal bones is the squamous suture.
40. Assuming that the body is in the anatomical position, the nose is to the ears and the elbow is to the wrist.
- A. medial; proximal
 - ~~B. anterior; proximal~~
 - ~~C. superior; distal~~
 - ~~D. superior; inferior~~
 - ~~E. medial; distal~~
41. Which of the following is paired correctly?
- ~~A. head of the femur // glenoid cavity~~
 - B. fibrous joint // suture
 - ~~C. olecranon // mandible~~
 - ~~D. atlas // cervical vertebra #2~~
 - ~~E. greater trochanter // humerus~~
42. The articular surfaces that connect the human skull to atlas are the:
- A. mandibular condyles
 - B. occipital condyles
 - C. mastoid processes
 - D. odontoid processes
 - E. superior articular notches

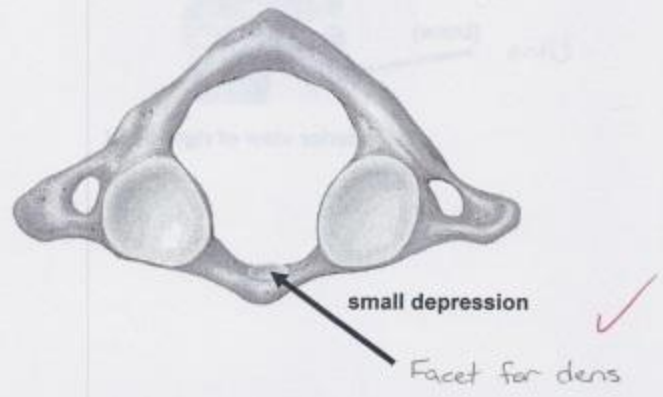
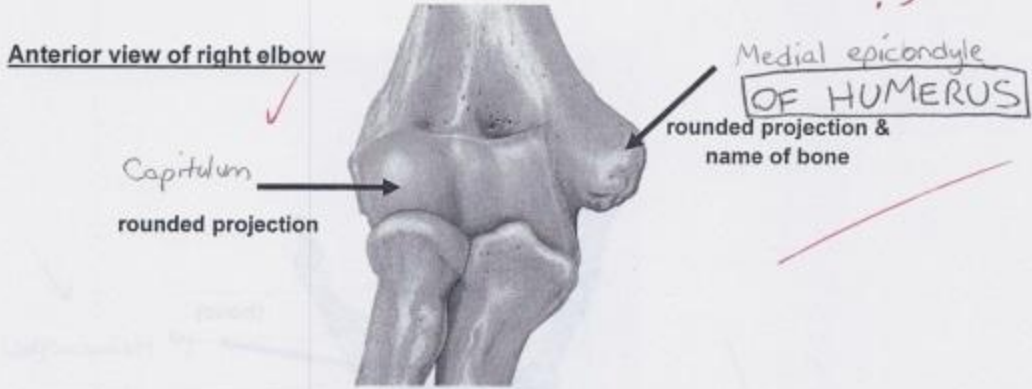
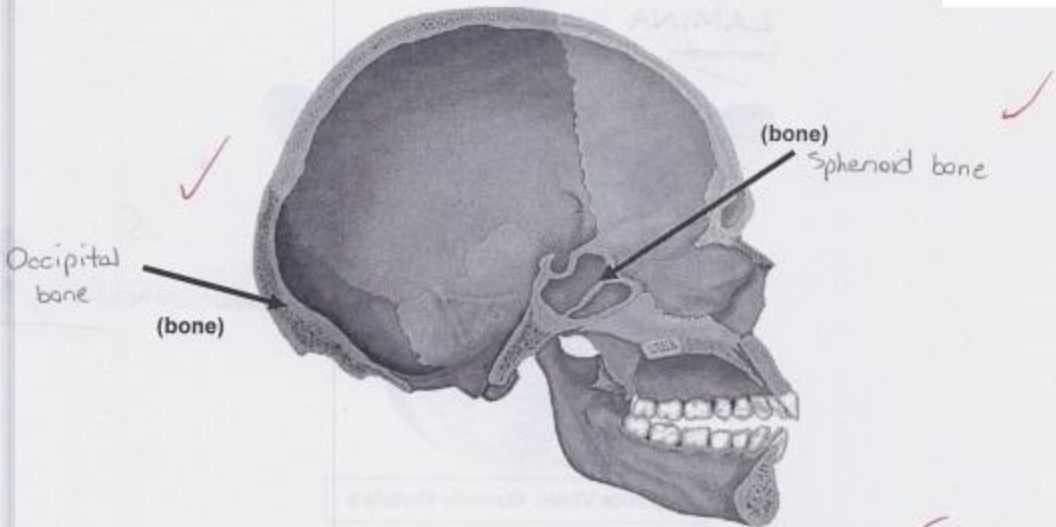
Fill-in-the-Blank. Complete the following sentences by writing your answer in the each space.

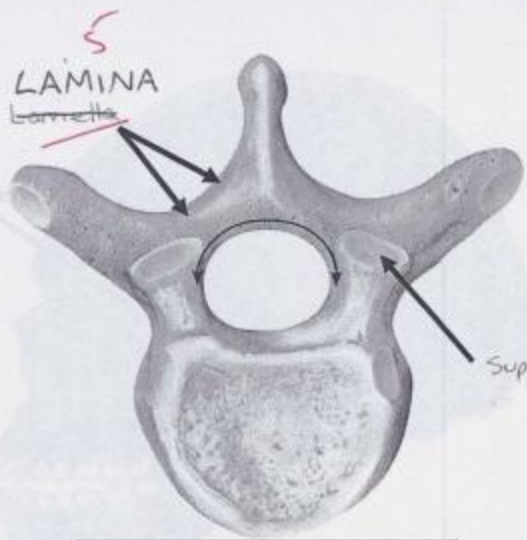
43. The hard palate is formed by contributions from the palatine bone and the maxilla ✓
44. Natural thinning and loss of hair by men and women as they age is called alopecia ✓
45. The vomer forms the bony part of the nasal septum.
46. The sagittal suture connects the frontal bone with the parietal bones. ✓
47. Tipping the medial edge of the foot in the upward direction is called inversion ✓
48. The ischium tuberosity is the part of the hip bone on which you sit.
49. The ethmoid bone has a projection called the crista galli.

Please complete the following diagrams as indicated (1 mark each – 13 marks total)

11.5 ✓
(these lamellae)
Circumferential
Lamellae

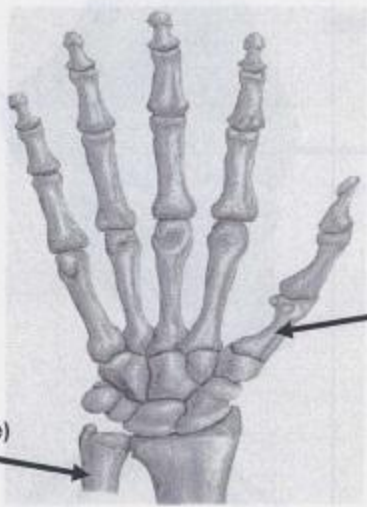






Superior View: Generic Vertebra

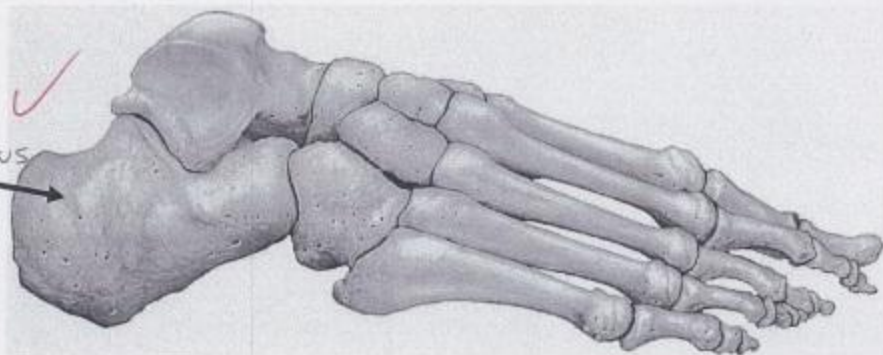
5
FACET
surface



Ulna (bone)

(bone) 1st Metacarpal

Anterior view of right hand



✓
calcaneus

✓
Greater trochanter
of right femur
rounded projection &
name of bone



small depression

✓
Fovea capitis (on head
of femur)