

**University of Ottawa**  
**ANP 1106D: Human Anatomy and Physiology II. Winter 2017**

**Professor: J. Savory**

**Midterm #1**

***Friday, February 3<sup>rd</sup>, 2017***

***Exam time: 1 hour 20 min***

**INSTRUCTIONS:**

- 1. 43 multiple choice questions (1 mark/1 correct answer per question) plus 6 fill-in-the-blanks (6 marks) and 12 labels (1 mark each) to be put on diagrams.***
- 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, on pages 9 and on your computer sheet.***
- 4. Hand in everything when you have finished.***
- 5. Make sure this exam is complete. This exam contains 13 pages and is printed double sided. The excuse of missing a page will not be accepted after the examination.***

1. Anatomical characteristics shared by all synovial joints include all of the following except

- A. articular cartilage
- B. a joint cavity
- C. an articular capsule
- D. the presence of fibrocartilage
- E. synovial membrane

2. Which forms the major portion of the coxal bone?

- A. ischium
- B. pubis
- C. ilium
- D. pelvic

3. Which of the following statements is/are true?

- A. Hinge joints permit movement in only one plane. ✓
- B. The articular surfaces of synovial joints are important contributors to joint stability.
- C. The only movement allowed between the first two cervical vertebrae is flexion
- D. Moving the arm in full circle is an example of circumduction. ✗
- E. A and D

4. Which of the following statements is FALSE?

- A. A suture is a fibrous joint.
- B. The inferior tibio-fibular joint is an example of a synchondrosis.
- C. Fibrous joints lack a joint cavity.
- D. Joints can be classified by either their function or their structure.
- E. In symphysis joints the articular surfaces are covered with fibrocartilage.

5. 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

6. An example of an interosseous fibrous joint is:

- A. the clavicle and the scapula at the distal ends
- B. the radius and ulna along their ends
- C. between the vertebrae
- D. between the humerus and the glenoid cavity

7. The gliding motion of the wrist is accomplished because of the \_\_\_\_\_ joint.

- A. hinge
- B. plane
- C. pivot
- D. condyloid

8. 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

9. A neurosurgeon orders a spinal tap for a patient. Into what body cavity will the needle be inserted?

- A. ventral
- B. cranial
- C. pelvic
- D. dorsal
- E. thoracic

10. The lungs are located in the following cavities?

- A. pericardial, ventral and thoracic
- B. pleural, dorsal and abdominal
- C. hypogastric, thoracic and ventral
- D. pleural, ventral and thoracic

11. When one is moving a limb away from the median plane of the body along the frontal plane, it is called:

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

12. The anatomical position:

- A. is a standard reference point for a directional terms regardless of whether the body is vertical or horizontal
- B. means the body is erect, feet apart and pointed outwards and palms inward
- C. means the body is erect, feet apart and palms forward
- D. is only used when viewing diagrams
- E. A and C

13. Which of the following is paired correctly?

- A. lunate bone | ankle
- B. ceruminous gland | nasal cavity
- C. proximal radioulnar joint | hinge joint
- D. nucleus pulposus | intervertebral disc
- E. superior nasal concha | maxilla

14. Which of the following terms is defined correctly?

- A. Pollex – the thumb
- B. Sagittal plane – divided body into ventral and dorsal regions
- C. Olecranon – the site of articulation of the mandible and the skull
- D. Eponychium – distal portion of the nail that appears white

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

- A. osteons
- B. central canals
- C. canaliculi
- D. lacunae
- E. Volkman's canal

16. Which structure allows the diaphysis of the bone to increase in length during?

- A. Epiphyseal plate
- B. Epiphyseal line
- C. Lacunae
- D. Circumferential lamella
- E. Canaliculli

17. A carpal bone is an example of a:

- A. long bone
- B. short bone
- C. flat bone
- D. irregular bone
- E. sesamoid bone

18. The pituitary gland is housed in the \_\_\_\_\_.

- A. foramen rotundum
- B. vomer
- C. sella turcica of the sphenoid bone
- D. sinuses of the ethmoid bone
- E. Posterior cranial fossa

19. A fracture in the shaft of a long bone would be a break in the:

- A. epiphysis
- B. metaphysis
- C. diaphysis
- D. articular cartilage

20. During appositional growth

- A. bones grow longer.
- B. bones grow wider.
- C. bone is replaced by cartilage.
- D. the epiphysis fuses with the diaphysis.
- E. osteoblasts are overwhelmed by osteocytes.

21. The \_\_\_\_\_ is not a weight bearing bone.

- A. talus
- B. femur
- C. fibula
- D. tibia

22. Select the TRUE statement.

- A. Osteoblasts deposit bone while osteocytes resorb bone. ~~X~~
- B. Perichondrium covers the surface of long bones. ~~X~~
- C. 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 acromion and coracoid processes are found on the ethmoid bone.

23. In the human skull, which of the following bones is unpaired?

- A. Nasal
- B. Parietal
- C. Maxilla
- D. Ethmoid
- E. Temporal

24. Which of the following sutures connect the parietal and temporal bones?

- A. transverse
- B. squamous
- C. coronal
- D. frontal
- E. sagittal

25. The structure that separated the condylar and coronoid process of the mandible

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

26. Which of the following best describes the sacrum?

- A. It articulates with the 12<sup>th</sup> 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

27. You have a cervical vertebra in your hand. What feature is present on the vertebra that is NOT present on the other vertebrae?

- A. transverse foramina
- B. facets
- C. body
- D. spinous process

28. The tibia is in contact with which tarsus bone?

- A. calcaneous
- B. cuboid
- C. navicular
- D. talus
- E. none of the above

29. The articular surfaces that connect the human skull to vertebrae are the:

- A. mandibular condyles
- B. occipital condyles
- C. mastoid processes
- D. odontoid processes
- E. superior articular notches

30. 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

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

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

32. Which of the following statements is TRUE?

- A. During fetal development the femur is formed by intramembranous ossification. X
- B. The hallux is an irregular bone. X
- C. The second cervical vertebra is called axis. ✓
- D. The external auditory meatus is part of the sphenoid bone.
- E. Paranasal sinuses are found in the maxilla and temporal bones

33. How many bones make up the tarsus?

- A. 4
- B. 5
- C. 6
- D. 7
- E. 8

34. Which of the following is correctly paired:

- A. Mandibular condyle | olecranon fossa
- B. Atlas | cervical vertebra #2
- C. Greater trochanter | humerus
- D. Fibrous joint | syndesmosis

35. Which of the following is an abnormal lateral curvature of the vertebral column often seen in the thoracic region?

- A. lordosis
- B. kyphosis
- C. scoliosis
- D. sway back

36. Which of the following statements is TRUE?

- A. The rule of nines is helpful clinically in diagnosis skin cancer. ✓
- B. If an incision cuts the brain into right and left parts, the section is a transverse section. ✓
- C. The greater trochanter is a bony landmark of the femur. ✓
- D. The function of keratin is to protect skin from ultraviolet light.
- E. Basal cell carcinoma is the most dangerous form of skin cancer because it involves the stratum basale.

37. The hair on your head is longer than eyebrow hairs because:

- A. they grow continually, but at a slower rate
- B. eyebrow hairs have a shorter active phase than head hair follicles
- C. eyebrow hair follicles have a poorer vascular supply than head hair follicles
- D. eyebrow hairs reach their predetermined length by age 6 and do not grow after that

38. The reproducing cells of the epidermis are found in the:

- A. stratum basale
- B. stratum spinosum
- C. stratum corneum
- D. stratum lucidum

39. Hair and nails are modifications of the:

- A. epidermis
- B. dermis
- C. hypodermis
- D. melanocytes

40. Which of the following statements is false?

- A. Striae occurs when the dermis is overstretched to the point of tearing
- B. In order to prevent excessive scarring, surgeons should cut parallel to the lines of cleavage
- C. The papillary layer of the dermis is responsible for fingerprints
- D. Much of the body's fat is located in the dermis of the skin.
- E. Flexure lines are dermal folds that occur near joints.

41. Which of the following statements 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. ✓
- C. The epidermis comprises the thickest portion of the skin. ✓
- D. Melanocytes are found in the deepest layer of the dermis. ✓
- E. The stratum lucidum 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. ✓