General Anatomy – Levels of Complexity / Structure and Function / Relationships

1. What is a characteristic of living things that sets them apart from the nonliving?
   A) respond to a stimulus  
   B) grow and reproduce  
   C) adaptation to a way of life  
   D) All of these are characteristics of living things.

2. The analysis of the internal structure of individual cells is called
   A) cytology.  
   B) histology.  
   C) embryology.  
   D) physiology.  
   E) anatomy.

3. All life that we know of comes from __________:
   A) spontaneous generation.  
   B) marine life.  
   C) after life  
   D) strange environments  
   E) Fossils  
   AB) Sexual reproduction  
   AC) Dead stuff  
   AD) Outer space  
   AE) Dinosaurs  
   BC) pre-existing life  
   BD) our imagination  
   BE) the sun

4. The scientific study of life is called:
   A. biology  
   B. ecology  
   C. anatomy  
   D. biochemistry  
   E. limnology

5. All of the changes that occur from the time an egg is fertilized through childhood, adolescence and adulthood are called
   A. metabolism.  
   B. evolution.  
   C. homeostasis.  
   D. reproduction.  
   E. development.

6. Which of the following are fundamental characteristics of life forms? [Mark all that apply]
   A. Living things are organized.  
   B. Living things acquire materials and energy.  
   C. Living things contain a nucleus and organelles.  
   D. Living things reproduce.  
   E. Living things grow and develop.
7. Traditions, beliefs, and values are considered what aspect of human life?
   A. communicative
   B. cultural
   C. instructional
   D. biological
   E. chemical

Chemistry of Life

8. The smallest unit of an element that still retains the chemical and physical properties of that element is called
   A. an isotope.
   B. a nucleus.
   C. an atom.
   D. a molecular bond.
   E. a neutrino.

9. How many elements occur naturally?
   A. 46
   B. 118
   C. 23
   D. 92
   E. A googolplex

Cell Structure and Function and Molecules

10. _________ are the fundamental units that make up all living things.
    A. Compartments
    B. Cells
    C. Chromosomes
    D. Coelom
    E. Cristae

11. The size of a metabolizing cell is limited by its
    A. extracellular matrix.
    B. function.
    C. nuclear size.
    D. surface area-to-volume ratio.
    E. genome size.

12. The reason that metabolizing cells are small in size is because
    A. cells influence nearby cells to divide.
    B. the surface area of a cell must be able to accomplish nutrient/waste exchange by osmosis and diffusion.
    C. cells need to dissipate heat effectively.
    D. mitosis occurs before cells reach a certain size.
    E. cells need to communicate with adjacent cells.
General Anatomy – Systems

13. The study of the first two months of development is termed
   A) histology.                D) pathology.
   B) embryology.              E) organology.
   C) cytology.

14. Which of the following is arranged in correct order from the most COMPLEX to the SIMPLEST?
   A) cellular, tissue, molecular, system, organ, organism
   B) molecular, cellular, tissue, organ, system, organism
   C) tissue, cellular, molecular, organ, system, organism
   D) organ, organism, molecular, cellular, tissue, system
   E) organism, system, organ, tissue, cellular, molecular

15. The maintenance of a constant internal environment in an organism is termed
   A) positive feedback.        D) effector control.
   B) homeostasis.             E) integration.
   C) negative feedback.

16. A person facing forward with hands at the sides and palms facing forward is in the
   A) supine position.          D) frontal position.
   B) prone position.           E) sagittal position.
   C) anatomical position.
   D) spleen.
   C) heart.

17. Anatomy is to ______ as physiology is to ______.
    A) function; form
    B) form; structure
    C) structure; function
    D) structure; form
    E) growth; form
Match the name of the ANATOMICAl SYSTEM that best fits the list of functions. See **CHOICES** from **COLUMN II**

<table>
<thead>
<tr>
<th>Definition</th>
<th>CODE</th>
<th>SYSTEM</th>
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<tbody>
<tr>
<td>18. Chemical control of growth, development, homeostasis, reproduction and sexual dimorphism</td>
<td></td>
<td>Cardiovascular</td>
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<tr>
<td>19. Consciousness, thought, and sensory response</td>
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<td>Connective</td>
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<td>20. Water proofing, environmental protection and Vitamin D manufacture</td>
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<td>Cytologic</td>
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<td>21. External respiration</td>
<td>AD</td>
<td>Digestive</td>
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<td>22. Spermato and o-o genesis</td>
<td>AE</td>
<td>Embryonic</td>
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<td>23. Infectious defense and fatty acid transport</td>
<td>BC</td>
<td>Endocrine</td>
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<tr>
<td>24. Maceration, salivation, peristalsis and nutrient absorption</td>
<td>BD</td>
<td>Epithelial</td>
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<td>25. Urination</td>
<td>BE</td>
<td>Excretory</td>
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<td>26. Oxygen, carbon dioxide and nutrient transport</td>
<td>CD</td>
<td>Genital</td>
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<tr>
<td>27. Support, movement and blood formation</td>
<td>CE</td>
<td>Histologic</td>
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<tr>
<td>28. Voluntary Movement</td>
<td>DE</td>
<td>Holistic</td>
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**COLUMN II**

- Cardiovascular
- Connective
- Cytologic
- Digestive
- Embryonic
- Endocrine
- Epithelial
- Excretory
- Genital
- Histologic
- Holistic
- Hydrologic
- Integumentary
- Joints
- Limbic
- Lipid
- Lymphatic / Immune
- Meningeal
- Muscular
- Nervous
- Neuromuscular
- Reproductive
- Resuscitory
- Respiratory
- Skeletal
- Urinary
- Vascular
- YorMyFireWurks
### Cell Physiology

**29.** The smallest living unit within the human body is

A) a protein.  
B) the cell.  
C) a tissue.  
D) an organ.  
E) an organ system.

### Histology

**30.** In cartilage, the cells lie in small chambers called ______.

A) mountings  
B) lamellae  
C) adipose  
D) lacunae

**31.** The most rigid connective tissue is called ____.

A) cartilage  
B) bone  
C) dense connective tissue  
D) adipose tissue

**32.** The brain and spinal cord contain conducting cells called ______.

A) dendrites  
B) neurons  
C) neuroglia  
D) axons

**33.** The heart and blood vessels are lined by

A) pseudostratified columnar epithelium.  
B) transitional epithelium.  
C) simple cuboidal epithelium.  
D) simple columnar epithelium.  
E) simple squamous epithelium.

**34.** Connective tissue fibers are produced mainly by

A) fibroblasts.  
B) macrophages.  
C) adipocytes.  
D) mast cells.  
E) melanocytes.

**35.** Cells that store fat are called

A) cellulocytes.  
B) macrocytes.  
C) adipocytes.  
D) podocytes.  
E) melanocytes.

**36.** What type of cell makes up almost half the volume of blood?

A) erythrocyte  
B) leukocyte  
C) platelet  
D) monocyte  
E) phagocyte

**37.** ________ attach skeletal muscles to bones, and ________ connect one bone to another.

A) Ligaments; tendons  
B) Ligaments; aponeuroses  
C) Tendons; ligaments  
D) Aponeuroses; tendons  
E) Reticular tissues; tendons
38. Which of the following connective tissue cells produces collagen?
   A) adipocytes  
   B) fibroblasts  
   C) macrophage  
   D) mast cell  
   E) lymphocyte  
   D) actinic keratosis.  
   E) A, B, and C

Skeletal System

39. The axial skeleton consists of ________.
   A) the skull  
   B) the vertebral column  
   C) the hyoid bone and rib cage  
   D) all of the above

40. The ________ bone of the leg is the longest and strongest of the body.
   A) tibia  
   B) fibula  
   C) humerus  
   D) femur

41. ________ is a term that refers to either finger or toe bones.
   A) Processes  
   B) Plates  
   C) Sphenoids  
   D) Phalanges

42. Most joints are freely movable, or ________, joints.
   A) fibrous  
   B) synovial  
   C) cartilaginous  
   D) suture

43. Which of following is a function of the skeletal system?
   A) body support  
   B) calcium homeostasis  
   C) protection of internal organs  
   D) blood cell production  
   E) all of the above

44. The vertebral column contains ________ thoracic vertebrae.
   A) 4  
   B) 5  
   C) 7  
   D) 12  
   E) 31

45. The vertebral column contains ________ lumbar vertebrae.
   A) 4  
   B) 5  
   C) 7  
   D) 12  
   E) 31

46. The ribs articulate with the ________ of the vertebrae.
   A) spinous processes  
   B) transverse processes  
   C) laminae  
   D) pedicles  
   E) auric arches

47. Which of the following bones is not part of the appendicular skeleton?
   A) scapula  
   B) tibia  
   C) sacrum  
   D) coxal bones  
   E) metacarpals
Reproductive System

48. The testes of the adult male lie within the ______ although they first begin development in the ______.
   A) abdomen; scrotum
   B) scrotum; abdominal cavity
   C) testicles; vas deferens
   D) vas deferens; epididymus

49. The ductus deferens empties sperm into the ______.  A) urinary bladder
   B) urethra
   C) penis
   D) prostate gland

50. The female sex hormones, estrogen and progesterone, are produced by the:
    A) oocyte.
    B) follicle cells.
    C) endometrium.
    D) cervix.

51. The fertilized egg is initially called the ______. A) oocyte
    B) ovum
    C) zygote
    D) embryo

52. The reproductive system
    A) produces gametes.
    B) stores and transports gametes.
    C) nourishes gametes.
    D) all of the above
    E) A and B only

53. The reproductive system includes  A) gonads and external genitalia.
    B) ducts that receive and transport the gametes.
    C) accessory glands and organs that secrete fluids.
    D) all of the above
    E) B and C only

54. Sperm production occurs in the
    A) ductus deferens.
    B) seminiferous tubules.
    C) epididymis.
    D) seminal glands (seminal vesicles).
    E) rete testis.
The following is a list of anatomical strictures associated with the male reproductive system.
1. ductus deferens
2. urethra
3. ejaculatory duct
4. epididymis

55. Arrange the four structures listed above into the order in which sperm pass from the testis to the vagina of the female.
A) 1, 3, 4, 2
B) 4, 3, 1, 2
C) 4, 1, 2, 3
D) 4, 1, 3, 2
E) 1, 4, 3, 2

56. The inferior portion of the uterus that projects into the vagina is the
A) isthmus
B) fornix.
C) glans
D) body.
E) cervix

57. The thick muscular layer of the uterus is the
A) endometrium.
B) perimetrium.
C) myometrium.
D) uterometrium.
E) sarcometrium.

58. The surge in luteinizing hormone that occurs during the middle of the ovarian cycle triggers
A) follicle maturation.
B) menstruation.
C) ovulation.
D) menopause.
E) atresia.

59. During the menses
A) progesterone levels are high.
B) a new uterine lining is formed.
C) secretory glands and blood vessels develop in the endometrium.
D) the old functional layer is sloughed off.
E) the corpus luteum is most active.

60. The clitoris
A) is derived from the same embryonic structures as the penis in males.
B) engorges with blood during sexual arousal.
C) is topped by a small erectile glans.
D) contains erectile tissue comparable to the corpora cavernosa of the penis.
E) all of the above
61. The portion of the uterine tube that ends in fingerlike fimbriae is the
   A) ampulla.
   B) distal segment.
   C) infundibulum.
   D) proximal segment.
   E) isthmus.

62. Which of the following descriptions best matches the term myometrium?
   A) thick layer of smooth muscle cells
   B) supports the uterus anteriorly
   C) supports the uterus laterally
   D) consists of stratum basalis and stratum functionalis
   E) after ovulation, the ovum is captured by it

63. The segment of the uterine tube where fertilization commonly occurs is the
   A) ampulla.
   B) anterior.
   C) infundibulum.
   D) posterior.
   E) isthmus.