1. All connective tissues arise from ___________________, an embryonic tissue.

2. Describe the vascularity of connective tissues, which are very diverse. ________________

3. Describe the innervation of connective tissues. ________________________________

4. The extracellular matrix is made up of ___________________ that separates cells and ___________________.
   Name the types of fibers found in connective tissue. ________________________________

5. Ground substance is made up of ____________________, ____________________ and ____________________.

6. Describe each of the fibers.
   Collagen ____________________________________________________________
   Elastic _____________________________________________________________
   Reticular ___________________________________________________________

7. A “________” is an immature cell that secretes matrix.
   A “________” is a mature cell that maintains matrix.

8. Give the functions of these cells.
   Fibroblasts___________________________
   Chondroblasts________________________
   Chondrocytes_________________________
   Osteoblasts__________________________
   Osteocytes___________________________
   Osteoclasts__________________________
   Adipocytes___________________________

White blood cells
   Neutrophils and eosinophils___________________________
   Monocytes______________________________
   Basophils/mast cells_______________________
   Lymphocytes____________________________
   Plasma cells____________________________

Red blood cells________________________
Platelets______________________________
9. List the 3 types of tissues considered loose connective tissue proper.

____________________________________________________________________

10. List the 3 types of tissues considered dense connective tissue proper.

____________________________________________________________________

11. List the 3 types of cartilage _______________________________________________
    Which type is the most abundant?__________________

GIVE FUNCTIONS FOR THESE CONNECTIVE TISSUES

12. Areolar ______________________________________________________________

13. Adipose ______________________________________________________________

14. Reticular ______________________________________________________________

15. Dense regular __________________________________________________________

16. Dense irregular _________________________________________________________

17. Elastic ________________________________________________________________

18. Hyaline cartilage ________________________________________________________

19. Elastic cartilage _________________________________________________________

20. Fibrocartilage __________________________________________________________

21. Bone _________________________________________________________________

22. Blood ________________________________________________________________

MUSCLE

23. Name the 3 types of muscle tissue and give their functions
    __________     __________     __________
    __________     __________     __________
    __________     __________     __________

Indicate the muscle type:

24. Striated_____________________________ Not striated________________________

25. Bifurcated ____________________ Spindle shaped ________________

26. Voluntary____________________ Involuntary_______________________________

27. Many nuclei__________________ Single nucleus____________________________

28. Intercalated discs____________________
    Function of intercalated discs ____________________________________________
NERVOUS

29. Give the general name for the supportive cells and give some functions. __________________________
   ______________________________________________________________________

30. Name the major functional cell and give its function. ________________________________

31. Give the functions for the parts of the neuron.
   Dendrites ________________________________________________________________
   Cell body (soma) __________________________________________________________
   Axon _________________________________________________________________
   Telodendria ____________________________________________________________

32. What is a synapsis? __________________________________________________________________

MEMBRANES

33. Name the two tissues that form membranes __________________________________________

34. Indicate locations for these membranes.
   Cutaneous ________________________________________________________________
   Mucous _________________________________________________________________
   Serous _________________________________________________________________
   Synovial ________________________________________________________________

35. Give functions for the membranes.
   Cutaneous ________________________________________________________________
   Mucous _________________________________________________________________
   What is the function of goblet cells? ________________________________
   Serous _________________________________________________________________
   Synovial ________________________________________________________________

FASCIA

36. List the 3 types of fascia. ________________________________________________________

37. What produces fascia. _________________

38. What are the functions. ____________________________________________________________
1. mesenchyme
2. blood vessels vary from none to a few to many
3. most connective tissues have nerves; exception - cartilage, lacks nerves
4. ground substance; fibers; collagen, elastic, reticular
5. interstitial fluid; cell adhesion proteins; proteoglycans
6. collagen - thick; resists longitudinal pulling forces
   elastic - smaller than collagen; stretches and recoils back to original shape
   reticular - smallest; forms branching networks that surround and support
7. "blast"; "cyte" (endings used with prefixes that indicate the specific type of cell)
8. fibroblasts - form fibers; chondroblasts - secrete matrix; chondrocytes - maintain matrix;
   osteoblasts - form bone; osteocytes - maintain bone; osteoclasts - break down bone;
   adipocytes - for adipose tissue;
   WBC: neutrophils and eosinophils - microphages; monocytes - macrophages;
   basophils/mast cells - release histamine and heparin; lymphocytes - specific immunity;
   plasma cells - produce antibodies
   RBC - carry oxygen; platelets - initiate blood clotting
9. areolar, adipose, reticular
10. dense regular, dense irregular, elastic
11. hyaline, elastic, fibrocartilage; hyaline
12. supports and binds; body defense; stores nutrients; holds fluid
13. insulates; protects by padding organs
14. internal framework in soft organs
15. attaches muscle to bones and bones to bones; resists pulling forces in one direction
16. withstands pulling forces in many directions
17. expansion and contraction of organs; stabilizes vertebrae
18. flexible support; withstands compression
19. maintains shape of structures will allowing flexibility
20. withstands heavy compression
21. supports body; protects organs; stores calcium; stores fat; forms blood cells
22. transports nutrients, gases, ions, wastes, hormones, proteins; body defense; blood clotting
23. skeletal - moves bones
   cardiac - pumps blood; maintains blood pressure
   smooth - moves substances (food, urine, baby, blood) through organs
24. striated - skeletal and cardiac; not striated - smooth
25. bifurcated - cardiac; spindle shaped - smooth
26. voluntary - skeletal; involuntary - cardiac and smooth
27. many nuclei - skeletal; single nucleus - cardiac and smooth
28. cardiac; specialized gap junctions for communication between cells; heart functions as a unit
29. neuroglia; provide nutrients and chemicals, and isolate neural tissue
30. neuron; transmits electrical signals
31. dendrites - receive afferent electrical signals; cell body (soma) - control center;
   axon - transmits efferent electrical signals;
   telodendria - contain synaptic bulbs that release neurotransmitters
32. connection between the axon and another neuron, organ or gland
33. epithelial and connective
34. cutaneous - skin (integumentary system)
   mucous - systems open to exterior (digestive, urinary, reproductive)
   serous - areas not open to exterior (pericardium, pleura, peritoneum)
   synovial - in freely movable joints

35. cutaneous - protective barrier - from chemicals and pathogens; makes vitamin D
    mucous - barrier to pathogens; lubricates (mucus produced by goblet cells)
    serous - prevents friction as organs move
    synovial - lubricates joints and provides nutrients and oxygen

36. superficial, deep, subserosal

37. membranes

38. gives support to organs; walls off infections; compartmentalizes body