1. Select the one false statement below:
   A  The Fc portion of an antibody is the "stem" portion of the Y-shaped molecule.  
   B  The canine liver produces growth hormone.  
   C  Antibodies may act as antigens.  
   D  IgG is often not found in many animal species.  
   E  sIgA has 4 antigen binding sites.  
   F  IgM usually has 10 antigen binding sites.

2. This vitamin is very important for the proper functioning of T-cells.
   A  A  
   B  B12  
   C  D  
   D  B5  
   E  K  
   F  C

3. These cells make up the cell-mediated immune response system.
   A  T-cells  
   B  eosinophils  
   C  B-cells  
   D  hepatocytes  
   E  splenic cells  
   F  neutrophils

4. This is the WBC that is most prevalent in a 6-month old lamb on pasture.
   A  erythrocyte  
   B  monocyte  
   C  NK cell  
   D  neutrophil  
   E  plasma cell  
   F  beta cell

5. This immunoglobulin is involved in allergic reactions.
   A  interferon  
   B  histamine  
   C  IgG  
   D  IgE  
   E  IL-1  
   F  IgA

6. The IgM immunoglobulin molecule contains _______ antigen binding sites.
   A  8  
   B  2  
   C  4  
   D  6  
   E  10  
   F  1

7. Where is the popliteal lymph node located in the dog?
   A  on the medial plane of the neck  
   B  right on the sternum  
   C  2.5 cm on either side of the thymus gland  
   D  behind the knees (on rear legs)  
   E  in the paralumbar region  
   F  next to the thyroid gland
8. This enzyme is often found in the tears of mammals.
   A. ACE  B. lipase
   C. aromatase  D. lysozyme
   E. appease  F. arginase

9. In general, __________ virus vaccines provide longer-term immunity than killed virus vaccines do.
   A. DNA  B. retro-
   C. modified-live  D. frozen
   E. RNA  F. live

10. Secretory IgA usually occurs as a(n) __________.
    A. dimer  B. pentamer
    C. enzyme  D. complement protein
    E. dead cell  F. monomer

11. __________ make up the immune branch known as humoral immunity.
    A. Macrophages  B. B cells and their products
    C. NK cells  D. Neutrophils
    E. Thyroid glands  F. All leukocytes

12. One characteristic of an antiserum is that it contains high concentrations of
    A. lymph fluid.  B. specific antibodies.
    C. saline.  D. specific antigens.
    E. albumin.  F. thrombocytes.

13. Antibodies that bind to surface antigens (for example, on bacteria) will attract the first component of the __________ with their Fc region and initiate activation of the MAC system.
    A. CLAD  B. ESP-system
    C. complement cascade  D. monoclonal system
    E. histolysis system  F. Z-system

14. The Classical Pathway of activating complement involves
    A. allergic reactions.  B. splenic cells.
    C. B-cells.  D. antibodies binding to antigens.
    E. NK cells.  F. T-cells.
15. Histolysis is a term that means:
   A invaded by macrophages  B the breakdown of bodily tissues
   C no longer producing any hormones  D no longer producing progesterone
   E invaded by neutrophils  F loss of WBCs

16. This immunoglobulin crosses the placenta in gravid women.
   A IgE  B slgA
   C IgG  D IgP
   E IgM  F IgA

17. For humans, _______________ is the most common cause of immunodeficiency in developing countries.
   A lack of vaccinations  B malnutrition
   C IBR  D FeLV
   E AIDS  F disease

18. 1,000 ml = _______ dl
   A 0.010  B 10
   C 1  D 100
   E 0.100  F 1,000

19. _______________ are the most powerful anti-inflammatory drugs used to control the effects of inflammation in the dog.
   A Interleukins  B IL-3
   C Gonadotropins  D PGF-2 alpha
   E Glucocorticoids  F IL-1

20. These cells are famous for producing immunoglobulins.
   A macrophages  B neutrophils
   C plasma cells  D eosinophils
   E thrombocytes  F histiocytes

21. A recent dog visitor to class had CCL surgery. These 3 letters stand for:
   A Central Cruciate Luxation  B Critical Cruciate Ligament
   C Critical Central Ligation  D Cranial Cruciate Ligament
   E Caudal Critical Ligation  F Caudal Cruciate Ligament
22. The canine innate immune system includes:
   A  IgG
   B  B cells
   C  intact integument
   D  plasma cells
   E  T cells
   F  antiserum

23. This is the recommended freezer-life of bovine colostrum.
   A  24 days
   B  1 month
   C  100 days
   D  6 months
   E  1 year
   F  2-3 years

24. A(n) ________ is the site on an antigen where Ab attaches.
   A  cerumen
   B  complement
   C  BLAD
   D  biotope
   E  CLAD
   F  epitope

25. Select the one false statement.
   A  The thymus gland programs T-cells.
   B  Lupus is an autoimmune disease in humans.
   C  Excess interstitial fluid will become lymph.
   D  Lymph nodes store erythrocytes.
   E  Lymph nodes store lymphocytes.
   F  Rod's favorite pie is sour cream raisin.

26. This is the only isotype of antibody capable of crossing the placenta to give passive immunity to the fetus.
   A  IgE
   B  IgM
   C  IgK
   D  IgG
   E  IgD
   F  IgA

27. A vaccine contains
   A  autoantibodies.
   B  interferons.
   C  killed or modified-live antigens.
   D  MAC.
   E  antibodies.
   F  prions.

28. The presence of ____________ is the #1 cause of vaccination failure in young animals.
   A  maternal antibodies
   B  pus
   C  pathogens
   D  maternal antigens
   E  chemotaxis
   F  retained placentas