1. The normal hematocrit for a mare is _________.
   A 320 mOsm  
   B 120 mg/dl  
   C 1:1000  
   D 45%  
   E 85%  
   F 3 mg/g

2. When does “gut closure” occur in the cat?
   A at puberty  
   B during the fetal stage (day 38)  
   C during the fetal stage (day 52)  
   D during the embryonic stage  
   E about 24 hours after birth  
   F about 12 days after birth

3. To help in a diagnosis, a dog with muscle weakness and ___________ could undergo a simple blood test to look for the presence of Abs against ___________.
   A megaesophagus, bacteria  
   B ataxia, myocytes  
   C hydrocephalus, CSF  
   D megaesophagus, acetylcholine receptors  
   E ataxia, GnRH  
   F anemia, platelets

4. The most prevalent immunoglobulin in bovine colostrum is _________.
   A IgG  
   B IgY  
   C IgM  
   D lactoferrin  
   E IgD  
   F complement

5. The pathophysiology of canine myasthenia gravis involves the presence of
   A muscle tumors.  
   B antibodies that attach to hepatocytes.  
   C immunoglobulins that attach to acetylcholine receptors.  
   D prions.  
   E autoantibodies directed against histiocytes.  
   F tumors of the pineal gland.

6. Select the most predominant WBC in the cow's bloodstream.
   A T-cells  
   B macrophages  
   C NK cells  
   D thrombocytes  
   E neutrophils  
   F B-cells

7. Any animal who is immune-suppressed (human or not) can serve as a(n):
   A control in a hormonal study.  
   B amplifier for infectious agents.  
   C source for tissue donation.  
   D source for hCG.  
   E donor of antiserum.  
   F blood donor.
8. When spherocytes are noted in canine blood smears, this indicates that
   A  liver cells are producing complement  B  renal cells are releasing ACE.
   C  liver cells are producing angiotensinogen  D  the spleen is destroying a lot of RBCs.
   E  the animal has myasthenia gravis  F  the female is pregnant.

9. Reactions to Poison Ivy involve what type of immune cells?
   A  NK cells  B  thrombocytes
   C  microglial cells  D  T-cells
   E  B-cells  F  platelets

10. Select the one false statement.
    A  Epinephrine is the antidote for anaphylactic shock.  B  Antibodies can be antigens.
    C  Equine neonatal isoerythrolysis involves Type II hypersensitivity.  D  When blood leaves the left ventricle it enters into the pulmonary artery.
    E  Neutrophils are short-lived phagocytic cells.  F  Type IV hypersensitivity involves T lymphocytes.

11. One function of the liver is to produce ___________.
    A  activated T-cells  B  growth hormone
    C  activated B-cells  D  urine
    E  prostatic fluids  F  complement proteins

12. Select the one true statement.
    A  Platelets are made from small segments (active pieces) of neutrophils.  B  When platelets become too old to function, the spleen will destroy them.
    C  Platelets are made from fragments of lymphocytes.  D  The spleen never stores active platelets.
    E  Platelets have an average life-span of 220 days.  F  The term thrombocytopenia means there is an excess of platelets in the blood.

13. ________________ is the condition where the canine neuromuscular junctions are dysfunctional.
    A  Mastitis  B  Myasthenia gravis
    C  Bilateral rhinopathy  D  Acute pyelonephritis
    E  Bilateral hysterectomy  F  Sinusitis

14. An FIV+ cat should not be given a raw diet because:
    A  It lacks splenic enzymes.  B  The lymph nodes will store dietary copper and become hardened.
    C  Uncooked foods, meats especially, may contain parasites and pathogens.  D  It lacks enteric enzymes.
    E  It lacks pancreatic enzymes.  F  It has no active gastric tissue.
15. Atopic dogs have a genetic tendency to develop _________.
   A  pulmonary lavage   B  blindness
   C  hemoglobinuria   D  uterine lavage
   E  allergic diseases   F  orchitis

16. In CLAD, neutrophils lack
   A  a basement membrane.   B  adhesion molecules.
   C  an Fc molecule.   D  a nucleus.
   E  glucose.   F  glycogen.

17. This organ is famous for containing phagocytes that like to remove platelets from blood.
   A  bursa of Fabricius   B  thyroid gland
   C  spleen   D  oecum
   E  pancreas   F  thymus

18. When complement is activated
   A  positive chemotaxis occurs.   B  pores are formed in nearby cell membranes.
   C  the fetus is expelled.   D  the liver enlarges.
   E  the spleen undergoes hypertrophy.   F  negative chemotaxis occurs.

19. Cats with type B blood carry a significant amount of ________ in their blood.
   A  parasites   B  pituitary hormones
   C  anti-Z antibodies   D  complement
   E  anti-A antibodies   F  atropine

20. A beef calf with severe icterus would have these characteristics:
   A  swollen brisket area   B  black colored muscle fibers only in the diaphragm
   C  swollen thymus   D  fatty liver and spleen
   E  gums are pale or even yellow-tinged as are the whites of the eyes (yellow sclera)   F  black colored muscle fibers with hypertrophy

21. What type of device may help dogs with myasthenia gravis more easily consume food.
   A  double retractor   B  B-speculum
   C  V-speculum   D  Cowper's tube
   E  Bailey chair   F  B-retractor
22. The bovine red blood cell has a life-span of about ____________.
   A  3-5 years       B  1 year
   C  15 days        D  3 days
   E  10 months     F  100 days

23. What substance below is a nephrotoxin?
   A  hemoglobin       B  norepinephrine
   C  IL-1            D  epinephrine
   E  naloxone       F  PGF-2 alpha

24. This is a famous endogenous pyrogen.
   A  estradiol-17 beta   B  cytokine-89
   C  ACTH             D  interleukin-1
   E  naloxone         F  epinephrine

25. In anatomy, a ____________ section will cut a tissue or structure perpendicular to the long axis.
   A  ipsilateral       B  medial
   C  midsagittal      D  frontal
   E  transverse      F  oblique

26. This is a common antidote for Type I Hypersensitivity.
   A  epinephrine     B  paracetylcholine
   C  acetylcholine  D  serotonin
   E  melatonin       F  melamine

27. For dogs and cats, onions in large amounts (and possibly garlic as well) will cause:
   A  ataxia           B  pyometra
   C  a toxic hemolysis.  D  hypothyroidism
   E  gut closure       F  hyperthyroidism

28. Select the chemical that is often used for immunosuppression.
   A  atropine         B  hemoglobinuria
   C  saline with 2.0 % sodium bicarbonate  D  dexamethasone
   E  growth hormone   F  epinephrine