1. The __________ is a device for gradual occlusion of blood flow used on extrahepatic portosystemic vascular shunts.
   A  endoscope  B  ameroid constrictor
   C  trocar  D  Raymond band
   E  Johnson constrictor  F  laparoscope

2. Select the substance that is not produced by bovine hepatic tissue.
   A  IGFs  B  complement proteins
   C  albumin  D  blood clotting factors
   E  bile  F  IgG

3. Diabetes mellitus is common in cats and dogs (especially if they are overweight). It is caused by:
   A  the adrenal cortex releasing too little ADH.
   B  the posterior pituitary releasing too little ADH.
   C  the pancreas secreting too little insulin.
   D  the posterior pituitary releasing too much ADH.
   E  the pancreas secreting too much insulin.
   F  the adrenal medulla releasing too much aldosterone.

4. In the proper sequence (start to finish), which 3 tissues are involved in endogenous vitamin D synthesis?
   A  enteric, liver, skin  B  skin, intestine, liver
   C  hepatic, pancreatic, enteric  D  renal, thymus, parathyroid
   E  integument, hepatic, renal  F  parathyroid, thyroid, skin

5. Polydipsia is a term that means:
   A  having an elevated hematocrit
   B  eating more food than normal
   C  having an elevated PCV
   D  drinking much water
   E  producing much urine
   F  producing more fecal matter than normal

6. Select the neurotransmitter released at the motor end-plate.
   A  acetylcholine  B  melatonin
   C  Sarin
   D  ACE
   E  acetylcholinesterase  F  renin

7. Mucus is a normal component of this domestic animal's urine.
   A  goat  B  rabbit
   C  ferret  D  pig
   E  horse  F  sheep
8. If you have 7.6 liter of blood, how many dl of blood does that equal?
   A  35.0 dl  B  3.60 dl  
   C  760 dl  D  76.0 dl  
   E  100 dl  F  0.76 dl

9. In the normal sow, glucose in crude urine undergoes extensive ____________.
   A  excretion  B  mastication  
   C  sanguification  D  emulsification  
   E  reabsorption  F  secretion

10. The chicken has
    A  no urinary bladder.  B  two bladders (dorsal/ventral).  
    C  no kidneys.  D  two bladders (anterior/posterior).  
    E  no gallbladder.  F  no liver.

11. __________ is made by the liver and is the substrate for ________.
    A  glucose, lipase  B  myoglobin, lipase  
    C  rennin, renin  D  angiotensinogen, renin  
    E  albumin, glucose  F  insulin, glucose

12. This mineral may accumulate in the ovine liver and cause problems.
    A  glucose  B  chloride  
    C  albumin  D  iodine  
    E  sodium  F  copper

13. ADH targets the __________ in the ____________ to promote water conservation by the body
    A  collecting ducts, kidney  B  Kupffer cells, liver  
    C  pineal gland, brain  D  ventricles, brain  
    E  glomerulus, kidney  F  hypothalamus, brain

14. This blood vessel brings nutrient-rich, oxygen-poor blood to the liver.
    A  vena cava  B  hepatic portal vein  
    C  vena cordis  D  renal vein  
    E  hepatic artery  F  renal artery
15. Select the substance or cells that are a nephrotoxin.
   A  ADH
   B  physiological saline
   C  myoglobin
   D  lymph
   E  thrombocytes
   F  lipocytes

16. Liver __________ in puppies allow portal blood to by-pass the _______.
   A  arteries, enteric system
   B  lobules, renal sinuses
   C  lobules, gastric epithelium
   D  shunts, stomach
   E  ventricles, lobules
   F  shunts, liver

17. __________ is a condition in which excess fluid collects in the feline abdominal cavity.
   A  Edema
   B  Idiopathic hypothyroidism
   C  Unilateral renal aplasia
   D  Idiopathic aplasia
   E  Jaundice
   F  Ascites

18. __________ such as __________ increase urine production.
   A  Chemicals, EPO
   B  Diuretics, renin
   C  Diuretics, atriopeptin
   D  Hormones, aldosterone
   E  Hormones, ADH
   F  Acids, ACTH

19. This cell is a fixed macrophage located within the liver.
   A  Sertoli cell
   B  Kupffer cell
   C  Schwann cell
   D  Leydig cell
   E  Hepatocyte
   F  Endothelial cell

20. One human kidney would contain __________ nephrons.
   A  1,000
   B  10
   C  5,000
   D  1,000,000
   E  10,000
   F  100

21. Ectopic is a term that means:
   A  infected with viruses
   B  caused by a genetic mutation
   C  not in the usual place
   D  infected with bacteria
   E  very large
   F  very small
22. Portal vascular systems can be found in these tissues:

A. hypothalamus/pituitary and gut/liver
B. kidney/adrenal gland and adrenal gland/pancreas
C. testis/epididymis and pancreas/gallbladder
D. brain/pineal gland and thalamus/hypothalamus
E. hypothalamus/pituitary and pancreas/gallbladder
F. thyroid gland/parathyroid gland and glomerulus/loop of Henle

23. Hemolytic anemia in the dog may cause ____________.

A. hydrocephalus
B. pyometra
C. bloat
D. hypobilirubinemia
E. hyperbilirubinemia
F. dehydration

24. _______ is released by the renal gland when it senses hypotension.

A. Glucose
B. Acid
C. Promegapoietin
D. Erythropoietin
E. Insulin
F. Renin

25. During icterus in the dog, this structure (__________) becomes __________.

A. gut, closed
B. pancreas, inflamed
C. liver, shunted
D. popliteal lymph node, isotonic
E. nutrient foramen, closed
F. sclera, yellow-colored

26. This hormone is produced by the bovine liver.

A. oxytocin
B. growth hormone
C. ADH
D. Sarin
E. melatonin
F. IGF-1

27. First-calf dairy heifers often experience this water imbalance near the time of parturition.

A. udder edema
B. pyometra
C. retained placenta
D. hydrocephalus
E. brisket disease
F. hydrosalpinx