**Step 1**

**Biochemistry**

1. Which of the following is the mRNA start codon in most cases?

A. UAA   
B. AGU   
C. AUG   
D. UGA

2. Which of the types of RNA is the smallest?

A. mRNA   
B. tRNA   
C. rRNA

3. Which of the following is not considered a pyrimidine?

A. C   
B. T   
C. U   
D. G

4. Which of the following is paired correctly?

A. A-G   
B. C-G   
C. A-U   
D. G-T

5. Which of the following characterizes a Western blot?

A. Antibody/protein hybridization   
B. DNA/RNA combination   
C. RNA transcription   
D. Polymerase chain reaction

6. Which of the following is the approximate prevalence ratio for cystic fibrosis?

A. 1: 25,000   
B. 1: 5,000   
C. 1: 2,000   
D. 1: 800

7. Which of the following divisions of cell growth precedes Mitosis in the cell cycle?

A. G   
B. G   
C. S   
D. G0

8. Down syndrome is directly linked to a genetic abnormality of chromosome?

A. XXII   
B. XXI   
C. XIIX   
D. XV

9. Which of the following is a characteristic of the Hardy-Weinberg law?

A. Mating between species occurs at a set rate.   
B. Migration is a considerable factor.   
C. Mutation occurs at the locus   
D. Genotype selection does not occur at the locus

10. Which of the following is not a characteristic of Hurler's syndrome?

A. Autosomal recessive condition   
B. Associated with delayed mental development   
C. Spasticity   
D. Corneal deficits

11. Which of the following is not a characteristic of Krabbe's disease?

A. Autosomal recessive condition   
B. Spasticity   
C. Nausea   
D. Optic nerve deficits

12. Which of the following is not a characteristic of Fabry's disease?

A. X-linked disease   
B. Low levels of alpha-galactosidase A   
C. Profound muscular weakness   
D. Increased levels of ceramide trihexoside

13. Which of the following is not a characteristic of Sickle Cell Anemia?

A. More common in African Americans   
B. Autosomal dominant   
C. Mutation in beta-globin   
D. Intense chronic pain

14. Which of the following is not a characteristic of the Southern blot?

A. DNA hybridization   
B. Use of a filter and film combination   
C. Activated by antigen/antibody reactions   
D. Uses a DNA sample

15. Which of the following is not a characteristic of S-adenosyl-methionine?

A. May be associated phosphocreatine   
B. Considered a rate limiting enzyme of glycolysis   
C. Aids in the transfer of methyl   
D. Byproduct of Methionine and ATP combination

16. Which of the following is not an activated carrier?

A. ATP   
B. SAM   
C. TPP   
D. GMP

17. The end product of the TCA cycle produces \_\_\_\_ NADH.

A. 3   
B. 4   
C. 5   
D. 6

18. How many ATP are required to transform pyruvate into glucose?

A. 5   
B. 6   
C. 7   
D. 8

19. Which of the following is not a derivative of the amino acid (Tryptophan)?

A. Melatonin   
B. Serotonin   
C. Creatine   
D. Niacin

20. Pompe's disease is a type \_\_\_ glycogen storage disease.

A. I   
B. II   
C. III   
D. IV

Answer Key   
1. C 2. B 3. D 4. B 5. A 6. C 7. A 8. B 9. D 10. C 11. C 12. C 13. B 14. C 15. B 16. D 17. A 18. B 19. C 20. B

**Behavioral Science**

1. Which of the following is not one of the key steps in the grief process?

A. Denial   
B. Anger   
C. Bargaining   
D. Rejection

2. Which of the following matches the definition: covering up a weakness by stressing a desirable or stronger trait?

A. Compensation   
B. Projection   
C. Rationalization   
D. Dysphoria

3. Which of the following waveforms is most commonly found with light sleepers?

A. Theta   
B. Alpha   
C. Beta   
D. Zeta

4. Which of the following months matches with an infant first having the ability to sit-up independently?

A. 4 months   
B. 6 months   
C. 8 months   
D. 10 months

5. Object permanence for toddlers develops in this age range?

A. 5-10 months   
B. 10-14 months   
C. 12-24 months   
D. 15-24 months

6. Which of the following matches the definition: attributing of our own unwanted trait onto another person?

A. Compensation   
B. Projection   
C. Rationalization   
D. Dysphoria

7. Which of the following matches the definition: the justification of behaviors using reason other than the real reason?

A. Compensation   
B. Projection   
C. Rationalization   
D. Dysphoria

8. Which of the following matches the definition: response to severe emotion stress resulting in involuntary disturbance of physical functions?

A. Conversion disorder   
B. Depressive reaction   
C. Bipolar disorder   
D. Alzheimer's disease

9. Which of the following waveforms is most commonly found when you are awake?

A. Theta   
B. Alpha   
C. Beta   
D. Zeta

10. The REM sleep cycle occur approximately every \_\_\_\_ minutes?

A. 45   
B. 60   
C. 75   
D. 90

11. Which of the following reflexes is not found at birth?

A. Babinski   
B. Palmar   
C. Moro   
D. Flexion

12. Parallel play for toddlers develops in this age range?

A. 5-10 months   
B. 10-14 months   
C. 12-24 months   
D. 24-48 months

13. Which of the following is not a sign of anxiety?

A. Dyspnea   
B. Hyperventilation   
C. Moist mouth   
D. GI symptoms

14. Which of the following best describes a person that is completely awake falling asleep spontaneously?

A. Cataplexy   
B. Narcolepsy   
C. Transitional sleep   
D. REM absence

15. Which of the following best describes a person that is unable to tell you were there hand or foot is?

A. Autotopagnosia   
B. Cataplexy   
C. Ergophobia   
D. Anosognosia

16. Which of the following is not a characteristic of a panic disorder?

A. Nausea   
B. Excessive perspiration   
C. Urination   
D. Chest pain

17. Which of the following categories would a 70 year old adult be placed in?

A. Intimacy vs. Isolation   
B. Generativitiy vs. Stagnation   
C. Integrity vs. Despair   
D. Longevity vs. Guilt

18. Which of the following categories would a 60 year old adult be placed in?

A. Intimacy vs. Isolation   
B. Generativitiy vs. Stagnation   
C. Integrity vs. Despair   
D. Longevity vs. Guilt

19. Which of the following categories would a 20 year old adult be placed in?

A. Intimacy vs. Isolation   
B. Generativitiy vs. Stagnation   
C. Integrity vs. Despair   
D. Longevity vs. Guilt

20. Which of the following describes a person using words that have no known meaning?

A. Neologisms   
B. Neolithic   
C. Verbalism   
D. Delusional blocking

Answer Key   
1. D 2. A 3. A 4. B 5. A 6. B 7. C 8. A 9. C 10. D 11. D 12. D 13. C 14. A 15. A 16. C 17. C 18. B 19. A 20. A

**Circulation**

1. Prothrombin is a \_\_\_\_ globulin and is produced by the \_\_\_\_\_.

A. Alpha, Kidney   
B. Alpha, Liver   
C. Beta, Kidney   
D. Beta, Liver

2. The right coronary artery divides to form the posterior interventricular artery and the \_\_\_ artery.

A. Marginal   
B. LVC   
C. RVC   
D. LAD

3. Blood flowing into the cardiac veins enters the \_\_\_\_\_\_\_ next.

A. Coronary Sinus   
B. Left Ventricle   
C. Right Ventricle   
D. Left Atrium

4. If you are using a stethoscope and trying to detect the tricuspid valve which of the following would be the best location?

A. Within 2 inches of the xyphoid process   
B. On the right side of the sternum   
C. On the left side of the sternum near the midpoint   
D. On the left side of the sternum near the midpoint of the sixth rib

5. Which of the following occurs during ventricular systole?

A. Increased aortic pressure   
B. Increased ventricular volume   
C. Dup heart sound   
D. P wave

6. Which of the following occurs during ventricular diastole?

A. Increased aortic pressure   
B. Increased ventricular volume   
C. Lub heart sound   
D. T wave

7. The innermost layer of a blood vessel is lined with \_\_\_\_\_\_\_ \_\_\_\_\_\_ cells

A. Simple squamous   
B. Stratified squamous   
C. Simple cuboidal epithelium   
D. Stratified cuboidal epithelium

8. Angiotension can directly cause the release of \_\_\_\_ from the adrenal cortex.

A. Renin   
B. Aldosterone   
C. Calcitonin   
D. Thyroxine

9. Cardiac output is the product of \_\_\_\_ and \_\_\_\_.

A. HR and Disastolic pressure   
B. HR and Stroke Volume   
C. HR and EF   
D. Diastolic and Systolic pressure

10. Pulmonary edema is most like associated with a failing \_\_\_\_\_ \_\_\_\_\_.

A. Right atrium   
B. Left atrium   
C. Right ventricle   
D. Left ventricle

11. Which of the following is the first branch off the aortic arch?

A. Common carotid   
B. Brachiocephalic   
C. Right Subclavian   
D. Thoracic

12. The brachiocephalic artery divides to form the right common carotid and the \_\_\_\_ \_\_\_\_ artery.

A. Left subclavian   
B. Right subclavian   
C. Left common carotid   
D. Right thoracic artery

13. Which of the following arteries creates the left spenic, hepatic and gastric arteries?

A. Left sacral artery   
B. Celiac artery   
C. Suprarenal artery   
D. Phrenic artery

14. Which of the following is not considered a major branch off of the descending thoracic aorta?

A. Mediastinal artery   
B. Renal artery   
C. Bronchial artery   
D. Posterior intercostals artery

15. Which of the following is not considered a major branch off of the abdominal aorta?

A. Phrenic artery   
B. Common iliac artery   
C. Gonadal artery   
D. Mediastinal artery

16. Which of the following is not considered a major branch off of the femoral artery?

A. Superficial pudendal arteries   
B. Deep external pudendal arteries   
C. Superficial circumflex iliac artery   
D. Deep circumflex iliac artery

17. Which of the following is not considered a tributary of the portal vein?

A. Inferior mesenteric vein   
B. Splenic vein   
C. Left gastric vein   
D. Subclavian vein

18. Inside the cranial cavity the vertebral arteries form the \_\_\_\_ artery.

A. Basilar   
B. Common Carotid   
C. MCA   
D. PCA

19. Pulse pressure (pp) is considered the \_\_\_\_\_.

A. Difference between the systolic and diastolic pressure   
B. The sum of the systolic and diastolic pressure   
C. The inverse of the blood pressure   
D. Half of the systolic pressure

20. \_\_\_\_\_ nerves can be found joining the SA and AV nodes in the heart.

A. Accelerator   
B. Phrenic   
C. Thoracic   
D. Gastric

Answer Key   
1. B 2. A 3. A 4. A 5. A 6. B 7. A 8. B 9. B 10. D 11. B 12. B 13. B 14. B 15. D 16. D 17. D 18. A 19. A 20. A

**Diabetes**

1. Insulin inhibits the release of \_\_\_\_\_\_\_.

A. Glucagon   
B. ADH   
C. Beta cells   
D. Somatostatin

2. Which of the following is caused by insulin release?

A. Increased breakdown of fats   
B. Increase breakdown of proteins   
C. Decreased blood sugar   
D. Causes glucose to be phosphorylated in kidney

3. Glucagon causes increased blood sugar and causes slow breakdown of glycogen in the liver.

A. TRUE   
B. FALSE

4. As blood glucose decreases glucagon is inhibited.

A. TRUE   
B. FALSE

5. Glucagon increases blood levels of glucose by causing liver to breakdown glycogen.

A. TRUE   
B. FALSE

6. Which of the following is not true about Type I DM?

A. May be linked to autoimmunity   
B. Onset usually prior to age 20   
C. Beta islet cells destroyed   
D. Does not require insulin injections

7. Which of the following is not true about Type II DM?

A. Considered adult onset diabetes   
B. Cause unknown may be due to genetics   
C. Require insulin 80% of cases   
D. May take a drug that sensitize cells or increase insulin release

8. Which of the following is not an effect of diabetes?

A. Small vessel occlusion   
B. Necrosis of extremities   
C. Ketone Body production   
D. Decreased fat metabolism

9. Which of the following is not an indicator of a hypoglycemic condition?

A. Fatigue   
B. Poor appetite   
C. Tachycardia   
D. Confusion

10. Which of the following is not an adverse effect of oral hypoglycemics?

A. Hypoglycemia   
B. Headache   
C. Rashes   
D. Projectile vomiting

11. Which of the following is not an adverse effect of glucagon?

A. Allergic reaction   
B. Vomiting   
C. Nausea   
D. Fever

12. Which of the following drugs may be given as an immunosuppressant soon after onset of Type I Diabetes?

A. Torsemide   
B. Cyclosporine   
C. Clofibrate   
D. Ceftriaxone

13. Which of the following is not considered an endocrine hormone?

A. Renin   
B. Insulin   
C. Glucagon   
D. Somatostatin

14. What type of cells secrete glucagon?

A. Beta cells   
B. Alpha cells   
C. Plasma cells   
D. Acinar cells

15. What type of cells secrete insulin?

A. Beta cells   
B. Alpha cells   
C. Plasma cells   
D. Acinar cells

16. Which of the following would not be considered an acute effect of diabetes mellitus?

A. Polyuria   
B. Weight gain   
C. Polydipsia   
D. Polyphagia

17. Which of the following is not an accurate test for diabetes?

A. Glucose tolerance test   
B. HbA   
C. Fasting serum glucose   
D. Fasting glucagon test

18. Which of the following is not an indicator of diabetic ketoacidosis?

A. Hyperthermia   
B. Nausea/Vomiting   
C. Slow and shallow breathing   
D. Psychosis leading to dementia

19. Which of the following is not related to a chronic diabetes mellitus condition?

A. Atherosclerosis   
B. Neuropathy   
C. Glaucoma   
D. Hypotension

20. Which of the following conditions is not linked to diabetic ketoacidosis?

A. Cerebral edema   
B. Arrhythmias   
C. Peptic ulcers   
D. Mucormycosis

Answer Key   
1. A 2. C 3. B 4. B 5. A 6. D 7. C 8. D 9. B 10. D 11. D 12. B 13. A 14. B 15. A 16. B 17. D 18. C 19. D 20. C

**Gastrointestinal**

1. Which of the following is not a specific element of duodenal ulcers?

A. Primarily affects males   
B. Occasional malignancy   
C. Can lead to weight gain   
D. Affects people over 65

2. Which of the following is not a specific element of Hepatitis C?

A. Vaccine available   
B. May be transmitted with sexual contact   
C. Inflammation of the liver   
D. Lifetime carrier

3. Which of the following Vitamins is not stored in the Liver?

A. Vitamin A   
B. Vitamin B   
C. Vitamin C   
D. Vitamin D

4. Which of the following is not a contributor to a condition of ascites?

A. Elevated levels of aldosterone   
B. Hypertension   
C. Low levels of albumin   
D. Elevated levels of angiotension I

5. Which of the following drugs is a histamine blocker and reduces levels of gastric acid?

A. Omeprazole (Prilosec)   
B. Metoclopramide (Reglan)   
C. Cimetidine (Tagamet)   
D. Magnesium Hydroxide (Maalox

6. Which of the following drugs is an antacid?

A. Omeprazole (Prilosec)   
B. Metoclopramide (Reglan)   
C. Cimetidine (Tagamet)   
D. Magnesium Hydroxide (Maalox)

7. Which of the following drugs is a dopamine antagonist?

A. Omeprazole (Prilosec)   
B. Metoclopramide (Reglan)   
C. Cimetidine (Tagamet)   
D. Magnesium Hydroxide (Maalox)

8. Another name for the Whipple procedure is a \_\_\_\_\_\_\_\_.

A. Cholangiopancreatography   
B. Pancreatoduodenectomy   
C. Cholangiogram   
D. Cholecystogram

9. Which of the following microorganisms has been linked to Parotitis?

A. *Staphylococcus aureus*   
B. *Schistosoma*   
C. *Wucheria bancrofti*   
D. *Trypanosoma cruzi*

10. What type of cell releases somatostatin?

A. b cells   
B. a cells   
C. plasma cells   
D. D cells

11. What type of cell releases glucagon?

A. b cells   
B. a cells   
C. plasma cells   
D. D cells

12. What type of cell releases insulin?

A. b cells   
B. a cells   
C. plasma cells   
D. D cells

13. Another name for the (Billroth II)procedure is a \_\_\_\_\_\_\_\_.

A. Gastrojejunostomy   
B. Gastroduodenostomy   
C. Cholangiogram   
D. Cholecystogram

14. Another name for the (Billroth I)procedure is a \_\_\_\_\_\_\_\_.

A. Gastrojejunostomy   
B. Gastroduodenostomy   
C. Cholangiogram   
D. Cholecystogram

15. Which of the following arteries supplies blood primarily to the Midgut?

A. IMA   
B. Celiac   
C. SMA   
D. Axillary

16. Which of the following is not considered a right of medication?

A. Dose   
B. Time   
C. Route   
D. Limit

17. Another name for the Myenteric plexus is the \_\_\_\_\_\_\_\_.

A. Submucosal plexus   
B. Branchial plexus   
C. Auerbach's plexus   
D. Lumbar plexus

18. Which of the following enzyme breaks down starches to maltose.

A. Amylase   
B. Lipase   
C. Trypsinogen   
D. Pepsin

19. Which of the following is not considered an H2 blocker?

A. Ranitidine (Zantac)   
B. Famotidine (Pepcid)   
C. Cimetidine (Tagament)   
D. Sucralfate (Carafate)

20. Which of the following drugs aids in gastric emptying?

A. Cisapride (Propulsid)   
B. Ranitidine (Zantac)   
C. Famotidine (Pepcid)   
D. Tranylcypromine sulfate (Parnate)

Answer Key   
1. D 2. A 3. C 4. D 5. C 6. D 7. B 8. B 9. A 10. D 11. B 12. A 13. A 14. B 15. C 16. D 17. C 18. A 19. D 20. A

**Gross Anatomy**

1. Which of the following is not a muscle identified in the rotator cuff?

A. Teres Major   
B. Teres Minor   
C. Infraspinatus   
D. Supraspinatus

2. Which of the following is not a component of the unhappy triad?

A. MCL   
B. PCL   
C. ACL   
D. Medial Meniscus

3. Which of the following is not included in the femoral triangle?

A. Femoral Artery   
B. Femoral Nerve   
C. Femoral Vein   
D. Femoral Ligament

4. Which of the following is not a component of the carotid sheath?

A. Cranial nerve X   
B. Common carotid artery   
C. Internal jugular vein   
D. Cranial nerve IX

5. Which of the following spinal dermatome level corresponds with the landmark of the inguinal ligament?

A. T10   
B. L1   
C. L3   
D. L5

6. Which of the following nerves innervates the deltoid?

A. Radial   
B. Cranial nerve XI   
C. Subscapular   
D. Axillary

7. Wrist extensors are primarily controlled by what nerve?

A. Radial   
B. Ulnar   
C. Median   
D. Tibial

8. Adductor pollicis in the hand is controlled by which nerve?

A. Radial   
B. Ulnar   
C. Median   
D. Tibial

9. Which of the following arteries is the most frequent site of coronary artery stenosis?

A. LCA   
B. RCA   
C. LAD   
D. PD

10. Which of the following nerves is not directly linked to the L2-L3 spinal level?

A. Tibial   
B. Obturator   
C. Femoral

11. Which of the following passageways contain the maxillary nerve and blood vessels?

A. Stylomastoid foramin   
B. Inferior orbital fissure   
C. Foramen ovale   
D. Carotid canal

12. Which of the following passageways contain the facial nerve and blood vessels?

A. Stylomastoid foramin   
B. Inferior orbital fissure   
C. Foramen ovale   
D. Carotid canal

13. Which of the following passageways contain the internal carotid artery?

A. Foramen rotundum   
B. Condylar canal   
C. Foramen ovale   
D. Carotid canal

14. Which of the following is the most common site of disc herniation?

A. C6-7   
B. T12-L1   
C. L4-5   
D. L5-S1

15. Which of the following ligaments is not found in the knee?

A. Patellar ligament   
B. Oblique popliteal ligament   
C. Arcuate popliteal ligament   
D. Deltoid ligament

16. Which of the following nerves innervates the teres minor muscle?

A. Subscapular nerve   
B. Suprascapular nerve   
C. Axillary nerve   
D. Pectoral nerve

17. Which of the following nerves innervates the pronator teres muscle?

A. Radial   
B. Median   
C. Musculocutaneous   
D. Ulnar

18. Which of the following supplies the muscles of the perineum?

A. Pudendal nerve   
B. Sciatic nerve   
C. Femoral nerve   
D. Tibial nerve

19. Which of the following eye muscles rotates the eye downward and away from midline?

A. Inferior oblique   
B. Superior oblique   
C. Inferior rectus   
D. Superior rectus

20. Which of the following eye muscles rotates the eye upward and toward midline?

A. Inferior oblique   
B. Superior oblique   
C. Inferior rectus   
D. Superior rectus

Answer Key   
1. A 2. B 3. D 4. D 5. B 6. D 7. A 8. B 9. C 10. A 11. B 12. A 13. D 14. D 15. D 16. C 17. B 18. A 19. B 20. D

**İntegumentary**

1. Which of the following is a longitudinal incision through eschar and down to subcutaneous tissue?

A. Escharotomy   
B. Dehiscence   
C. Transection   
D. Escharotic's procedure

2. Which of the following types of wounds match the criteria: plantar aspect of foot, met heads, heel?

A. Arterial   
B. Plantar   
C. Venous   
D. Diabetic

3. Which of the following terms matches: water and electrolytes (clear)?

A. Exudate   
B. Transudate   
C. Serosanguineous   
D. Induration

4. Which of the following edema assessment levels corresponds with: Depression resolving in 10-15 sec?

A. +1   
B. +2   
C. +3   
D. +4

5. Which of the following terms matches the statement: to increase the fibrous element; to make hard as in the presence of cellulites?

A. Induration   
B. Necrosis   
C. Eschar   
D. Maceration

6. Following the rule of nines. What percent would a third degree burn to the entire arm and back cover?

A. 28%   
B. 27%   
C. 20%   
D. 18%

7. Which of the following matches the defintion: A full thickness skin loss involving damage or necrosis of subcutaneous tissue that may extend down to but not through underlying fascia, infection and/or necrosis may be present?

A. Stage I wound   
B. Stage II wound   
C. Stage III wound   
D. Stage IV wound

8. Which of the following types of wound is indicated by the definition: relatively painless, decreased with elevation?

A. Arterial   
B. Plantar   
C. Venous   
D. Diabetic

9. Which of the following matches the definition: The loss of circulatory fluids into interstitial spaces?

A. Hypovolemia   
B. Necrosis   
C. Eschar   
D. Maceration

10. An emollient has a/an \_\_\_\_\_ effect.

A. Pruritic   
B. Antipruritic   
C. Rupture   
D. Impetigo

11. Which of the following is the outermost layer of the epidermis?

A. Stratum spinosum   
B. Stratum corneum   
C. Stratum granulosum   
D. Stratum basale

12. Which of the following is the deepest layer of the epidermis?

A. Stratum spinosum   
B. Stratum corneum   
C. Stratum granulosum   
D. Stratum basale

13. Which of the following is beneath the stratum corneum?

A. Stratum spinosum   
B. Stratum corneum   
C. Stratum granulosum   
D. Stratum basale

14. Vitamin D is created from \_\_\_\_\_\_\_\_\_ by skin cells.

A. Dehydrocholesterol   
B. Cholesterol   
C. Hydrocholesterol   
D. Hydrodermis

15. Which of the following is another name for blackheads associated with acme?

A. Pustules   
B. Sebaceous   
C. Eccrine   
D. Comedones

16. Which of the following identifies skin from a cadaver used in a burn graft?

A. Homograft   
B. Autograft   
C. Allograft   
D. Xenograft

17. Which of the following is a disease characterized by hyperactive sebaceous glands and often associated with dandruff?

A. Keloid   
B. Seborrhea   
C. Eczema   
D. Urticaria

18. Which of the following is a disease characterized by the presence of hives?

A. Keloid   
B. Seborrhea   
C. Eczema   
D. Urticaria

19. Which of the following is a disease characterized by a skin rash that is blistering and itchy?

A. Keloid   
B. Seborrhea   
C. Eczema   
D. Urticaria

20. Sebaceous glands secrete \_\_\_\_\_\_\_.

A. Sebum   
B. Impetigo   
C. Serous   
D. Sirius

Answer Key   
1. A 2. D 3. B 4. B 5. A 6. B 7. C 8. B 9. A 10. A 11. B 12. D 13. C 14. A 15. D 16. A 17. B18. D 19. C 20. A

**Lymphatic**

1. Which of the following is not directly associated with the lymphatic pathway?

A. Lymphatic trunk   
B. Collecting duct   
C. Subclavian vein   
D. Carotid arteries

2. The thymus is responsible for secreting \_\_\_\_\_ from epithelial cells.

A. Thymosin   
B. Growth hormone   
C. Macrophages   
D. Plasma cells

3. Which of the following types of cytokines is responsible for the growth and maturation of B cells?

A. Interleukin-1   
B. Interleukin-2   
C. Interleukin-4   
D. Interleukin-7

4. Which of the following types of immunoglobulins is the most responsible for promoting allergic reactions?

A. IgA   
B. IgM   
C. IgD   
D. IgE

5. Which of the following types of immunoglobulins is located on the surface of most B-lymphocytes?

A. IgA   
B. IgM   
C. IgD   
D. IgE

6. Which of the following types of immunoglobulins does not cross the barrier between mother and infant in the womb?

A. IgA   
B. IgM   
C. IgD   
D. IgE

7. Which of the following is not an autoimmune disease?

A. Graves disease   
B. Myasthenia gravis   
C. Insulin-dependent diabetes mellitus   
D. Alzheimer's disease

8. T-cell activation requires a/an \_\_\_\_\_\_\_ cell.

A. Activation   
B. Accessory   
C. Plasma   
D. Helper

9. The thymus is located with the \_\_\_\_\_\_\_.

A. Mediastinum   
B. Peristinum   
C. Epistinum   
D. Endostinum

10. Which of the following statements is false regarding the spleen?

A. Divided up into lobules   
B. Similar to a large lymph node   
C. Contains macrophages   
D. Limited blood within the lobules

11. Which of the following is not considered a central location of lymph nodes?

A. Cervical   
B. Axillary   
C. Inguinal   
D. Tibial

12. Lymphocytes that reach the thymus become \_\_\_\_\_.

A. T-cells   
B. B-cells   
C. Plasma cells   
D. Beta cells

13. Lymphocytes that do not reach the thymus become \_\_\_\_\_.

A. T-cells   
B. B-cells   
C. Plasma cells   
D. Beta cells

14. Which of the following is associated with a B cell deficiency?

A. Job's syndrome   
B. Chronic granulomatous disease   
C. Bruton's agammaglobulinemia   
D. Wiskott-Aldrich syndrome

15. Which of the following is the autoantibody for systemic lupus?

A. Anti-microsomal   
B. Antinuclear antibodies   
C. Anti-gliadin   
D. Anti-histone

16. The TB skin test is an example of \_\_\_\_\_\_.

A. Delayed hypersensitivity   
B. Serum sickness   
C. Cytotoxic reaction   
D. Arthus reaction

17. Which of the following types of cytokines is secreted by macrophages?

A. IL-1   
B. IL-2   
C. IL-3   
D. IL-4

18. Which of the following types of immunoglobulins binds complement?

A. IgA   
B. IgD   
C. IgE   
D. IgG

19. Which of the following is a key component of cytotoxic T cells?

A. CD2   
B. CD4   
C. CD8   
D. CD10

20. Which of the following is not a primary target group of T cells?

A. Viruses   
B. Toxins   
C. Fungi   
D. TB

Answer Key   
1. D 2. A 3. C 4. D 5. C 6. A 7. D 8. B 9. A 10. D 11. D 12. A 13. B 14. C 15. B 16. A 17. A 18. D 19. C 20. B

**Microbiology**

1. Which of the following structures contains genes for enzymes and antibiotic resistance?

A. Plasmid   
B. Pilus   
C. Capsule   
D. Plasma Membrane

2. Which of the following is the most important structure related to microbial attachment to cells?

A. Flagellum   
B. Plasmid   
C. Peptidoglycan   
D. Glycocalix

3. Which of the following is not a gram-negative bug?

A. *Clostridium perfringens*   
B. *Vibrio cholerae*   
C. *Escherichia coli*   
D. *Bordetella pertussis*

4. Which of the following is not true related to endotoxins?

A. Endotoxins are secreted from cells.   
B. Can be linked to Meningococcemia   
C. Produced by gram negative microorganisms   
D. Can cause fever

5. Which of the following microorganisms stain well?

A. *Escherichia coli*   
B. *Legionella pneumophila*   
C. *Treponema*   
D. *Chlamydia*

6. Which of the following microorganisms are not matched correctly with the appropriate isolation media?

A. Fungi - Sabourand's agar   
B. *Neisseria gonorrhoeae* – Pink colonies media   
C. *Haemophilus influenzae* – Chocolate agar   
D. *Mycobacterium tuberculosis* - Lowenstein-Jensen agar

7. Which of the following diseases and bacteria are matched up incorrectly?

A. Cellulitis – *Pasteurella multocida*   
B. Tularemia – *Francisella tularensis*   
C. Gastritis – *Heliobacter pylori*   
D. Lyme disease – *Yersinia pestis*

8. Which of the following diseases and bacteria are matched up incorrectly?

A. *Treponema pallidum* – Syphilis   
B. *Tinea nigra* – Cladosporium werneckii   
C. *Borrelia burgdorferi* – Lyme disease   
D. *Yersinia enterocolitica* – Diptheria

9. Which of the following is not true concerning Staphylococcus aureus?

A. S. aureus is related to inflammation.   
B. S. aureus can cause pneumonia   
C. S. aureus can lead to acute bacterial endocarditis   
D. S. aureus does not make coagulase

10. Which of the following signs and symptoms is not linked to Haemophilus influenzae?

A. Otitis media   
B. Pneumonia   
C. Malaria   
D. Epiglottis

11. The Tsetse fly is a transmission factor for which of the following organisms?

A. *Trichomonas vaginalis*   
B. *Trypanosoma gambiense*   
C. *Entamoeba histolytica*   
D. *Toxoplasma*

12. The Ixodes tick is a transmission factor for which of the following organisms?

A. *Trichomonas vaginalis*   
B. *Leishmania donovani*   
C. *Babesia*   
D. *Giardia lamblia*

13. Chagas' disease is commonly treated with Nifurtimox and is linked to the \_\_\_\_ microorganism.

A. Naegleria   
B. *Schistosoma*   
C. *Wucheria bancrofti*   
D. *Trypanosoma cruzi*

14. Which of the following is not fungal related?

A. *Cryptococcus neoformans*   
B. *Candida albicans*   
C. *Tinea nigra*   
D. *Chlamydiae*

15. Which of the following is not a DNA virus?

A. Adenovirus   
B. Calicivirus   
C. Papovirus   
D. Poxvirus

16. Which of the following is not a RNA virus?

A. Reovirus   
B. Orthomyxovirus   
C. Deltavirus   
D. Herpesvirus

17. Which of the following viruses is not a double strand linear DNA virus?

A. Poxvirus   
B. Papovavirus   
C. Adenovirus   
D. Herpesvirus

18. Which of the following viruses is not a single strand linear RNA virus?

A. Togavirus   
B. Retrovirus   
C. Bunyavirus   
D. Picornavirus

19. The Tzanck test is not used on which of the following viruses?

A. VZV   
B. HSV-2   
C. HHV-8   
D. HSV-1

20. Which of the following microorganisms has not been linked to UTI's?

A. *E. coli*   
B. *Pseudomonas*   
C. *Klebsiella*   
D. *Haemophilus*

Answer Key   
1. A 2. D 3. A 4. A 5. A 6. B 7. D 8. D 9. D 10. C 11. B 12. C 13. D 14. D 15. B 16. D 17. B 18. C 19. C 20. D

**Nervous System**

1. Oligodendrocytes are located in the \_\_\_\_\_.

A. PNS   
B. CNS

2. Schwann cells are located in the \_\_\_\_\_.

A. PNS   
B. CNS

3. Which of the following types of cells is the most common in the CNS?

A. Astrocytes   
B. Oligocytes   
C. Neurocytes   
D. Celiac cells

4. Which of the following is a regulatory protein in the cytoplasm that helps the processes at the synapse?

A. Calmodulin   
B. Protein kinase   
C. Ligand   
D. Gap protein

5. Myasthenia gravis is due to \_\_\_\_ receptors being blocked and destroyed by antibodies.

A. Epinephrine   
B. Nicotinic   
C. Acetylcholine   
D. Transient

6. The primary effect of cocaine on the nervous system is that cocaine blocks the re-uptake of \_\_\_\_.

A. Monoamines   
B. Transamines   
C. Catecholamine   
D. Monoamine oxidase

7. Which of the following amino acids can function as a neurotransmitter in the CNS?

A. Leucine   
B. Glutamic acid   
C. Lysine   
D. Valine

8. Huntington's chorea has been linked with a deficiency in the amino acid \_\_\_\_\_\_.

A. Lysine   
B. GABA   
C. Valine   
D. Tyrosine

9. Which of the following is not considered a monoamine?

A. Epinephrine   
B. Norepinephrine   
C. Dopamine   
D. Adenosine

10. Which of the following is not considered a catecholamine?

A. Dopamine   
B. Norepinephrine   
C. Serotonin   
D. Epinephrine

11. Excessive polarization due to GABA is created due to the opening of \_\_\_\_ channels.

A. Ca++   
B. Cl-   
C. K+   
D. Na+

12. Valium has an effect on \_\_\_\_ to inhibit neural transmission.

A. Epinephrine   
B. Norepinephrine   
C. GABA   
D. Dopamine

13. The drug \_\_\_\_ blocks the reuptake of serotonin into presynaptic axons.

A. Prozac   
B. Valium   
C. Xanax   
D. Deprenyl

14. Which of the following toxins blocks Sodium Channels?

A. Srychnine   
B. Neostigmine   
C. Tetrodotoxin   
D. Curare

15. *Clostridium botulinum* releases this enzyme that destroys peptide bonds.

A. Amylase   
B. Endopeptidases   
C. Exopeptidases   
D. Protein kinase

16. Multiple sclerosis is a disease that attacks the \_\_\_\_\_\_\_ of neurons in the CNS.

A. Myelin sheaths   
B. Axon terminals   
C. Sodium channels   
D. Nicotinic receptors

17. Which of the following is not considered a type of synapse?

A. Dendrodendritic   
B. Axosomatic   
C. Axoaxonic   
D. Denoaxonic

18. The progression of a nerve impulse with the nodes of Ranvier is called \_\_\_\_\_\_\_.

A. Saltatory conduction   
B. Transmission   
C. Unmyelinated conduction   
D. Relative conduction

19. Supporting cells located within the CNS are collectively called \_\_\_\_\_.

A. Neuroglia   
B. Astrocytes   
C. Perikaryon   
D. Satellite cells

20. Which of the following types of cells line the ventricles and spinal cord?

A. Astrocytes   
B. Schwann cells   
C. Ependymal cells   
D. Oligodendrocytes

Answer Key   
1. B 2. A 3. A 4. A 5. C 6. A 7. B 8. B 9. D 10. C 11. B 12. C 13. A 14. C 15. B 16. A 17. D 18. A 19. A 20. C

**Neuroanatomy**

1. Which of the following cranial nerves is not directly related to the eye?

A. II   
B. III   
C. VI   
D. VII

2. Which of the following cranial nerves can cause movement of trapezius muscle?

A. IV   
B. VII   
C. X   
D. XI

3. Which of the following cranial nerves causes sensation to 1/3 of the tongue?

A. IV   
B. VII   
C. X   
D. XI

4. Which of the following cranial nerves can be directly linked to respiratory and cardiac dysfunction?

A. IV   
B. VII   
C. X   
D. XI

5. Which of the following cranial nerves can be directly linked to ptosis?

A. III   
B. IV   
C. V   
D. VI

6. Which of the following cranial nerves can be directly linked to diplopia?

A. III   
B. IV   
C. V   
D. VI

7. Which of the following is another name for cranial nerve IX?

A. Trochlear   
B. Vestibulocochlear   
C. Hypoglossal   
D. Glosspharyngeal

8. Athetosis type movements are often identified with a \_\_\_\_\_\_\_ lesion.

A. Midbrain   
B. Basal ganglia   
C. Subthalamic   
D. Thalamus

9. Changes in personality and judgment are often associated with a \_\_\_\_\_lesion.

A. Frontal lobe   
B. Parietal lobe   
C. Broca's area   
D. Wernicke's area

10. Changes in motor aphasia are often associated with a \_\_\_\_\_\_\_ lesion.

A. Frontal lobe   
B. Parietal lobe   
C. Broca's area   
D. Wernicke's area

11. Changes in sensory aphasia are often associated with a \_\_\_\_\_\_\_ lesion.

A. Frontal lobe   
B. Parietal lobe   
C. Broca's area   
D. Wernicke's area

12. Which of the following diseases has not been directly linked with Bell's palsy?

A. AIDS   
B. Diabetes   
C. Lyme disease   
D. Alzheimer's disease

13. Which of the following cervical nerve roots best corresponds with activation of the triceps muscle?

A. C5   
B. C6   
C. C7   
D. T2

14. The upper and middle trucks of the brachial plexus combine to form the \_\_\_\_ cord.

A. Lateral   
B. Posterior   
C. Medial   
D. Anterior

15. The upper, middle, and lower trucks of the brachial plexus combine to form the \_\_\_\_ cord.

A. Lateral   
B. Posterior   
C. Medial   
D. Anterior

16. The lower truck of the brachial plexus forms the \_\_\_\_ cord.

A. Lateral   
B. Posterior   
C. Medial   
D. Anterior

17. Jerky and sudden random movements are often associated with a \_\_\_\_\_lesion.

A. Midbrain   
B. Basal ganglia   
C. Subthalamic   
D. Thalamus

18. Which of the following arteries supplies Broca's area?

A. ACA   
B. MCA   
C. PCA   
D. Lateral striate

19. Which of the following arteries if ruptured can cause an oculomotor palsy?

A. ACA   
B. MCA   
C. PCA   
D. Lateral striate

20. Which of the following is not true concerning Brown-Sequard syndrome?

A. Contralateral spinothalamic deficits   
B. Ipsilateral spinothalamic deficits   
C. Ipsilateral dorsal column deficits   
D. Ipsilateral pyramidal tract deficits

Answer Key   
1. D 2. D 3. B 4. C 5. B 6. B 7. D 8. B 9. A 10. C 11. D 12. D 13. C 14. A 15. B 16. C 17. B 18. B 19. C 20. B

**Nutrition**

1. Which of the following is not considered a fat soluble vitamin?

A. Vitamin A   
B. Vitamin B   
C. Vitamin K   
D. Vitamin E

2. Which of the following is not considered a water soluble vitamin?

A. Vitamin B   
B. Vitamin C   
C. Vitamin D   
D. Vitamin B12

3. Which of the following is not an underlying cause of hypercalcemia?

A. Paget's disease   
B. Hyperparathyroidism   
C. Hartnup disease   
D. Sarcoidosis

4. Which of the following is caused by a B5 deficiency?

A. Ectopic pregnancy   
B. Nausea   
C. Dermatitis   
D. Fever

5. Which of the following is caused by a B6 deficiency?

A. Excessive irritability   
B. Nonproductive cough   
C. Dry mouth   
D. Depression

6. Which of the following is caused by a B12 deficiency?

A. Glossitis   
B. Fever   
C. Hypertension   
D. Edema

7. Which of the following is caused by a Vitamin C deficiency?

A. Fever   
B. Anemia   
C. Headaches   
D. Nausea

8. Which of the following is caused by a Vitamin D deficiency?

A. Edema   
B. Anemia   
C. Lupus   
D. Rickets

9. Which of the following is caused by a Vitamin K deficiency?

A. Bruising   
B. Optic Nerve degeneration   
C. Anemia   
D. Hemorrhage (infants)

10. Another name for Vitamin B1 is \_\_\_\_ .

A. Thiamine   
B. Riboflavin   
C. Pyridoxine   
D. Cobalamin

11. Which of the following foods is not high in potassium?

A. Oranges   
B. Bananas   
C. Tomatoes   
D. Turnips

12. 1 gram of protein is equal to \_\_\_\_ of energy.

A. 3 kcals   
B. 4 kcals   
C. 5 kcals   
D. 6 kcals

13. A protein restricted diet requires only \_\_\_\_\_\_ grams/day.

A. 20-40   
B. 30-50   
C. 40-60   
D. 50-70

14. Which of the following is not considered a food reaction for infants?

A. Diarrhea   
B. Hypertension   
C. Skin rash   
D. Difficulty breathing

15. Which of the following vitamins will be the most common in: oils from cereal seeds, salad oils, margarine and shortenings?

A. Vitamin A   
B. Vitamin D   
C. Vitamin E   
D. Vitamin K

16. Which of the following vitamins will be the most common in: leafy green vegetables, egg yolk and soy oil?

A. Vitamin A   
B. Vitamin D   
C. Vitamin E   
D. Vitamin K

17. Which of the following vitamins will be the most common in: fish liver oils, milk, and egg yolk?

A. Vitamin A   
B. Vitamin D   
C. Vitamin E   
D. Vitamin K

18. Another name for Vitamin B12 is \_\_\_\_ .

A. Pantothenic Acid   
B. Cyanocobalamin   
C. Niacin   
D. Riboflavin

19. Which of the following does not contain a high concentration of Niacin?

A. Yeast   
B. Meat   
C. Liver   
D. Corn

20. Which of the following does not contain a high concentration of Vitamin A?

A. Strawberries   
B. Oranges   
C. Green Vegetables   
D. Yellow Vegetables

Answer Key   
1. B 2. C 3. C 4. C 5. A 6. A 7. B 8. D 9. D 10. A 11. D 12. B 13. C 14. B 15. C 16. D 17. B 18. B 19. D 20. C

**Pathology**

1. Which of the following is not associated with Wilson's disease?

A. Asterixis   
B. Basal ganglia   
C. Cirrhois   
D. Pancreatitis

2. Which of the following is not associated with Reye's syndrome?

A. Coma   
B. Hyperglycemia   
C. Influenza B   
D. Fatty liver tissue

3. Emphysema is not linked to which of the following terms?

A. Blue Bloater   
B. Dyspnea   
C. Liver cirrhosis   
D. Tachycardia

4. Guillian-Barre' is not linked to which of the following statements?

A. Infections often present.   
B. Greater initial upper extremity deficits   
C. Increased CSF protein levels   
D. Hypertension

5. Pancoast's tumor is not linked to which of the following statements?

A. Horner's syndrome   
B. Anhidrosis   
C. Cervical plexus involvement   
D. Arthritis

6. Wermer's syndrome is considered a?

A. MEN type I   
B. MEN type II   
C. MEN type III   
D. MEN type IV

7. Which of the following is not a cause of acute pancreatitis?

A. Hyperlipidemia   
B. Ethanol   
C. Steroids   
D. Hypotension

8. Which of the following is not directly related with Alzheimer's disease?

A. Senile plaques   
B. Diabetes mellitus   
C. Tangles   
D. Dementia

9. Which of the following is not directly related with Horner's syndrome?

A. Miosis   
B. Malaise   
C. Ptosis   
D. Anhidrosis

10. Which of the following is not directly related with Goodpasture's syndrome?

A. Hematuria   
B. Anemia   
C. Adrenal atrophy   
D. Hemoptysis

11. Which of the following is not directly related with Hasimoto's thyroiditis?

A. Hypothyroidism   
B. Slow onset   
C. Neuropathy   
D. Autoimmune disease

12. Which of the following is not a causative agent with syndrome of inappropriate antidiuretic hormone secretion?

A. Pulmonary disorders   
B. TBI   
C. Drug induced   
D. HIV

13. Which of the following is not a type of embolus?

A. Air   
B. Bacteria   
C. Tumor   
D. Viral

14. Which of the following is not directly related with Buerger's disease?

A. Claudication   
B. Thromboangitis obliterans   
C. Night sweats   
D. Poor tolerance of cold

15. Which of the following is not directly related with Kawasaki disease?

A. Lymphadenitis   
B. Fever   
C. Arthritis   
D. Conjunctiva

16. Which of the following is not directly related with Pericarditis?

A. Conjunctiva   
B. SLE   
C. Uremia   
D. Rheumatic fever

17. Which of the following is not directly related with pheochromocytoma?

A. Pallor   
B. Perspiration   
C. Decreased blood pressure   
D. Headaches

18. Which of the following is not directly related with Sarcoidosis?

A. Interstitial fibrosis   
B. Elevated levels of ACE   
C. RA   
D. Obstructive lung disease

19. Which of the following is not a risk factor for hypertension?

A. Genetics   
B. Obesity   
C. Youth   
D. Smoking

20. Which of the following is not a characteristic of MS?

A. Nystagmus   
B. Elevated IgE levels   
C. Optic neuritis   
D. Tremors

Answer Key   
1. D 2. B 3. A 4. B 5. D 6. A 7. D 8. B 9. B 10. C 11. C 12. D 13. D 14. C 15. C 16. A 17. C 18. D 19. C 20. B

**Pharmacology-1**

1. Which of the following is not a side effect of the cholinoreceptor blocker (Atropine)?

A. Increased pulse   
B. Urinary retention   
C. Constipation   
D. Mydriasis

2. Which of the following is not a side effect of the Ace Inhibitor (Captopril)?

A. Rash   
B. Angioedema   
C. Cough   
D. Congestion

3. Which of the following is not a side effect of the Vasodilator (Nifedipine)?

A. Nausea   
B. Flush appearance   
C. Vertigo   
D. Sexual dysfunction

4. Which of the following is not a side effect of the Sympathoplegics (Clonidine)?

A. Hypertension   
B. Asthma   
C. Dry oral cavity   
D. Lethargic behavior

5. Which of the following is not a side effect of the Dieuretics (Loop dieuretics)?

A. Alkalosis   
B. Nausea   
C. Hypotension   
D. Potassium deficits

6. Which of the following is not an effect of the drug (Isoflurane)?

A. Elevated lipid levels   
B. Nausea   
C. Increased blood flow to the brain.   
D. Decreased respiratory function

7. Which of the following is not an effect of the drug (Midazolam)?

A. Amnesia   
B. Decreased respiratory function   
C. Anesthetic   
D. Dizziness

8. Which of the following is not an effect of the drug (Clozapine)?

A. Agranulocytosis   
B. Antipsychotic   
C. Used for Schizophrenia   
D. Increased appetite

9. Which of the following is not treated with (Epinephrine)?

A. Renal disease   
B. Asthma   
C. Hypotension   
D. Glaucoma

10. Which of the following is not treated with (Ephedrine)?

A. COPD   
B. Hypotension   
C. Congestion   
D. Incontinence

11. Which of the following are not treated with Barbiturates?

A. Seizures   
B. Hypotension   
C. Insomnia   
D. Anxiety

12. Which of the following are not treated with opoid analgesics like (dextromethorphan and methadone)?

A. Pulmonary Edema   
B. Cough suppression   
C. Sedation   
D. Pain

13. Which of the following are not treated with Hydrochlorothiazide?

A. CHF   
B. HTN   
C. Nephritis   
D. Hypercalciuria

14. Which of the following are not treated with Nifedipine?

A. Angina   
B. Arrhythmias   
C. Htn   
D. Fluid retention

15. Which of the following are not treated with Methotrexate?

A. Sarcomas   
B. Leukemias   
C. Ectopic pregnancy   
D. Rheumatic fever

16. Which of the following are not treated with Prednisone?

A. Cushing's disease   
B. Testicular cancer   
C. Lympthomas   
D. Chronic leukemias

17. Which of the following are not treated with Dexamethasone?

A. Inflammation   
B. Asthma   
C. Addison's disease   
D. Wilson's disease

18. Which of the following are not treated with Lansoprazole?

A. Zollinger-Ellison syndrome   
B. Gastritis   
C. Hypertension   
D. Reflux

19. Which of the following is the antidote for the toxin Heparin?

A. Protamine   
B. Methylene blue   
C. N-acetylcysteine   
D. Glucagon

20. Which of the following is the antidote for the toxin Copper?

A. Glucagon   
B. Aminocaproic acid   
C. Atropine   
D. Penicillamine

Answer Key   
1. B 2. D 3. D 4. B 5. B 6. A 7. D 8. D 9. A 10. A 11. B 12. C 13. C 14. D 15. D 16. B 17. D 18. C 19. A 20. D

**Pharmacology-2**

1. Which of the following is the antidote for the toxin Benzodiazepines?

A. Flumazenil   
B. Methylene blue   
C. Deferoxamine   
D. Alkalinize urine

2. Which of the following is the antidote for the toxin Lead?

A. Naloxone   
B. Nitrite   
C. CaEDTA   
D. Dialysis

3. Which of the following is the primary site of activity for the drug Warfarin?

A. Kidney   
B. Liver   
C. Blood   
D. Heart

4. Lansoprazole is not used in which of the following cases?

A. Gastritis   
B. Peptic Ulcers   
C. Zollinger-Ellison syndrome   
D. Thalamus hypertrophy

5. Which of the following drugs is associated with the reaction of Cinchonism?

A. Valproic acid   
B. Quinidine   
C. Isoniazid   
D. Ethosuximide

6. Which of the following drugs is associated with the reaction of hepatitis?

A. Valproic acid   
B. Quinidine   
C. Isoniazid   
D. Ethosuximide

7. Which of the following drugs is associated with the reaction of Stevens-Johnson syndrome?

A. Valproic acid   
B. Quinidine   
C. Isoniazid   
D. Ethosuximide

8. Which of the following drugs is associated with the reaction of Tendon dyfunction?

A. Digitalis   
B. Niacin   
C. Tetracycline   
D. Fluoroquinolones

9. A drug ending in the suffix (pril) is considered a \_\_\_\_\_\_.

A. H   
B. ACE inhibitor   
C. Antifungal   
D. Beta agonist

10. A drug ending in the suffix (azole) is considered a \_\_\_\_\_\_.

A. H   
B. ACE inhibitor   
C. Antifungal   
D. Beta agonist

11. A drug ending in the suffix (tidine) is considered a \_\_\_\_\_\_.

A. Antidepressant   
B. Protease inhibitor   
C. Beta antagonist   
D. H2 antagonist

12. A drug ending in the suffix (navir) is considered a \_\_\_\_\_\_.

A. Antidepressant   
B. Protease inhibitor   
C. Beta antagonist   
D. H2 antagonist

13. Which of the following drugs is associated with the reaction of extreme photosensitivity?

A. Digitalis   
B. Niacin   
C. Tetracycline   
D. Fluoroquinolones

14. Which of the following is not related to a drug toxicity of Prednisone?

A. Cataracts   
B. Hypotension   
C. Psychosis   
D. Acne

15. Which of the following is not related to a drug toxicity of Atenolol?

A. CHF   
B. Tachycardia   
C. AV block   
D. Sedative appearance

16. Which of the following is considered a class IA Sodium Channel blocker?

A. Mexiletine   
B. Aminodarone   
C. Quinidine   
D. Procainamide

17. Which of the following is considered a class IA Sodium Channel blocker?

A. Propafenone   
B. Disopyramide   
C. Aminodarone   
D. Quinidine

18. Potassium sparing diuretics have the primary effect upon the \_\_\_\_\_ found in the kidney.

A. Proximal convoluted tubule   
B. Loop of Henle   
C. Collecting duct   
D. Distal convoluted tubule

19. Which of the following is not directly related to a drug toxicity of Nitroglycerin?

A. Headaches   
B. Tachycardia   
C. Dizziness   
D. Projectile vomiting

20. Which of the following is not directly related to a drug toxicity of Ibuprofen?

A. Nausea   
B. Renal dysfunction   
C. Anemia   
D. Muscle wasting

Answer Key   
1. A 2. C 3. B 4. D 5. B 6. C 7. D 8. D 9. B 10. C 11. D 12. B 13. C 14. B 15. B 16. B 17. A 18. D 19. D 20. D

**Physiology**

1. Which of the following hormones causes increased atrial pressure and decreases sodium reabsorption in the kidneys?

A. Atrial natriuretic peptide   
B. PTH   
C. Aldosterone   
D. Vasopressin

2. Angiotensin I is changed by which of the following into Angiotensin II?

A. ACE   
B. AVT   
C. Pepsin   
D. Adenosine

3. Which of the following is not a cause of peripheral edema?

A. Increased capillary permeability   
B. Reduced levels of plasma proteins   
C. Heart failure   
D. Decreased capillary output

4. Which of the following during an electrocardiogram is associated with hypokalemia?

A. QRS complex   
B. U wave   
C. PR segment   
D. ST segment

5. Which of the following is not generally associated with a 2nd degree (Mobitz Type 1) AV block?

A. Usually asymptomatic   
B. Nonsequential (P wave then QRS complex)   
C. Increased PR segment/interval   
D. 70% Fatal

6. An S3 heart sound is often associated with?

A. CHF   
B. COPD   
C. Atrial fib.   
D. Ventricular fib.

7. Mean arterial pressure is the product of:

A. TPR x SV   
B. TPR x CO   
C. CO/SV   
D. SV/EDV

8. During phase 3 of the myocardial action potential which ion is moving the most?

A. K+   
B. Ca+   
C. Na+   
D. Ca2+

9. An ejection fraction can be calculated as:

A. SV/TPR   
B. CO/TPR   
C. SV/EDV   
D. CO/EDV

10. Which of the following is not a bradykinin effect?

A. Elevated capillary permeability   
B. Elevated pain levels   
C. Elevated vasodilation response   
D. Elevated prothrombin secretion

11. PAH is secreted in which of the following locations?

A. Distal tubule   
B. Loop of Henle   
C. Collecting tubule   
D. Proximal tubule

12. Which of the following is not an anterior pituitary gland secretion?

A. TSH   
B. GH   
C. Vasopressin   
D. Prolactin

13. Thyroid Hormone T3 does not have which of the following functions?

A. Stimulate bone development and growth   
B. Create beta-adrenergic responses   
C. Cause brain development   
D. Decrease calcium re-absorption

14. Hypercalemia has not been linked with which of the following?

A. Paget's disease   
B. Aldosterone   
C. Sarcoidosis   
D. Malignancy

15. Which of the following does not require the pre-cursor progesterone?

A. Cortisol   
B. Testosterone   
C. ACTH   
D. Aldosterone

16. Which of the following is the source cell for the secretion Pepsinogen?

A. Chief cell   
B. Plasma cell   
C. G cell   
D. Parietal cell

17. Which of the following is the primary activator of zymogen secretion?

A. Somatostatin   
B. Secretin   
C. Acetylcholine   
D. Gastrin

18. Which of the following is not a function of Angiotensin II?

A. Causes release of aldosterone   
B. Causes vasodilation   
C. Causes increased posterior pituitary activation   
D. Elevates blood pressure

19. Which of the following is not a function of Progesterone?

A. Causes increased body temperature.   
B. Causes some smooth muscle relaxation.   
C. Causes increased spiral artery growth   
D. Causes activation of FSH

20. Which of the following is not a function of Estrogen?

A. Causes breast growth.   
B. Causes inhibition of FSH   
C. Increased follicle development   
D. Decreased overall transport proteins

Answer Key   
1. A 2. A 3. D 4. B 5. D 6. A 7. B 8. A 9. C 10. D 11. D 12. C 13. D 14. B 15. C 16. A 17. C 18. B 19. D 20. D

**Reproduction**

1. Which of the following is the location where fertilization occurs?

A. Ovaries   
B. Vagina   
C. Uterus   
D. Fallopian Tubes

2. Which of the following terms correspond with the phrase: a woman that is pregnant?

A. Gravida   
B. Parity   
C. Spermatogonia   
D. Zona pellucida

3. Which of the following sign's may indicate pregnancy?

A. Chadwick's sign   
B. Turner's sign   
C. Virchow's sign   
D. Kock's sign

4. Which of the following is not an associated change during the antepartum period?

A. Increased urination frequency   
B. Increased respiratory requirements   
C. Decreased basal metabolic rate   
D. Goodell's sign

5. Which of the following matches the definition: abnormal placenta development covering the cervix?

A. Placenta Previa   
B. Abruptio Placentae   
C. Multigravida   
D. Proliferative phase

6. Which of the following is not scored with the APGAR?

A. 0   
B. Heart Rate   
C. Color   
D. Tone

7. Which of these is not considered a T.O.R.C.H. infection?

A. Rubella   
B. Herpes   
C. Cytomegalovirus   
D. Croup

8. Which of the following develops into the ejaculatory duct and ductus deferens?

A. Paramesonephric duct   
B. Mesonephric duct   
C. Sympathetic duct   
D. Parasympathetic duct

9. Which of the following is the result of poor fusion between the paramesonephric ducts in females?

A. Placenta Previa   
B. Bicornuate uterus   
C. Multigravida   
D. Proliferative phase

10. Where does spermatogenesis occur?

A. Seminiferous tubules   
B. Corpus spongiosoma   
C. Prostate gland   
D. Scrotum

11. The tip of the sperm is called the \_\_\_\_.

A. Head   
B. Acrosome   
C. Tail   
D. Nucleus

12. Which of the following develops into: bone, connective tissue, blood, and the spleen?

A. Notochord   
B. Endoderm   
C. Mesoderm   
D. Ectoderm

13. Which of the following is not a germ layer during the 3rd week of development?

A. Mesoderm   
B. Ectoderm   
C. Endoderm   
D. Exoderm

14. The umbilical vein carries \_\_\_\_\_ blood.

A. Deoxygenated   
B. Oxygenated

15. Ovulation occurs during which of the following phases?

A. Menstrual   
B. Secretory   
C. Proliferative   
D. Follicle

16. Following fertilization the blastocyst secrets a hormone called?

A. Human Chorionic Gonadotropin   
B. Oxytocin   
C. FSH   
D. LH

17. Progesterone is secreted from a female's \_\_\_\_\_ to help the implanted embryo and continue the pregnancy.

A. Corpus luteum   
B. Mesoderm   
C. Endoderm   
D. Thyroid

18. Which of the following is not appropriately matched with the term: Braxton Hicks contractions?

A. Painless   
B. Intermittent contractions   
C. Edema   
D. Irregular

19. If a newborn exhibits a heart rate of 80 bpm the APGAR score should be?

A. 0   
B. 1   
C. 2   
D. 3

20. If a newborn exhibits blue extremities and the body is pink the APGAR score should be?

A. 0   
B. 1   
C. 2   
D. 3

Answer Key   
1. D 2. A 3. A 4. C 5. A 6. A 7. D 8. B 9. B 10. A 11. B 12. C 13. D 14. B 15. C 16. A 17. A 18. C 19. B 20. B

**Respiration**

1. Which of the following conditions correlate with the following information:   
High pH   
High HCO3   
High BE   
Neutral pCO2

A. Respiratory alkalosis   
B. Respiratory acidosis   
C. Metabolic acidosis   
D. Metabolic alkalosis

2. Which of the following conditions correlate with the following information:   
High pH   
Neutral HCO3   
Neutral BE   
Low pCO2

A. Respiratory alkalosis   
B. Respiratory acidosis   
C. Metabolic acidosis   
D. Metabolic alkalosis

3. Which of the following conditions correlate with the following information:   
Low pH   
Low HCO3   
Low BE   
Neutral pCO2

A. Respiratory alkalosis   
B. Respiratory acidosis   
C. Metabolic acidosis   
D. Metabolic alkalosis

4. Which of the following information corresponds with a negative TB test?

A. 0-4 mm induration at 48 hours   
B. 0-5 mm induration at 48 hours   
C. 0-6 mm induration at 48 hours   
D. 0-7 mm induration at 48 hours

5. Which of the following is the most common type of lung cancer?

A. Large cell   
B. Adenocarcinoma   
C. Oat cell   
D. Squamous cell

6. What cell type secrets surfactant?

A. Plasma cell   
B. Type I alveolar cell   
C. Type II alveolar cell   
D. Type III alveolar cell

7. Which of the following pulmonary term correlates with the definition: noted obstruction of the trachea or larynx.

A. Rhonchi   
B. Stridor   
C. Wheezes   
D. Vesicular

8. Normal values for pCO2 are considered:

A. 20-40 mm Hg   
B. 25-30 mm Hg   
C. 30-40 mm Hg   
D. 35-45 mm Hg

9. Normal values for HCO3 are considered:

A. 15-30 mEq/L   
B. 20-35 mEq/L   
C. 22-26 mEq/L   
D. 24-29 mEq/L

10. *Pneumoncystis carinii* infections are commonly treated with which of the following medications?

A. Pentamidine   
B. Allopurinol   
C. Iorazepam   
D. Chlorpropamide

11. Which of the following is not generally caused by COPD?

A. Pneumonia   
B. Right sided heart failure   
C. Headaches   
D. Cor pulmonale

12. Which of the following is not considered a COPD related disease?

A. Bronchiectasis   
B. Bronchial asthma   
C. Bronchitis   
D. Bronchial hypotension

13. Which of the following pulmonary term correlates with the definition: bronchospasm of the bronchial walls?

A. Wheezes   
B. Rhonchi   
C. Stridor   
D. Pleural Rub

14. Which of the following is considered an expectorant?

A. Acetylcysteine   
B. Guaifenesin   
C. Theophylline   
D. Epinephrine HCL

15. Which of the following is considered a bronchodilator?

A. Acetylcysteine   
B. Guaifenesin   
C. Theophylline   
D. Epinephrine HCL

16. Which of the following is considered a xanthine?

A. Acetylcysteine   
B. Guaifenesin   
C. Theophylline   
D. Epinephrine HCL

17. Which of the following is considered a mucolytic?

A. Acetylcysteine   
B. Guaifenesin   
C. Theophylline   
D. Epinephrine HCL

18. Which of the following matches the definition: The volume of air that can be inhaled following exhalation of tidal volume?

A. Expiratory reserve volume   
B. Inspiratory capacity   
C. Inspiratory reserve volume   
D. Vital capacity

19. Which of the following matches the definition: The maximum volume of air that can be exhaled after taking the deepest breath possible?

A. Expiratory reserve volume   
B. Inspiratory capacity   
C. Inspiratory reserve volume   
D. Vital capacity

20. The respiratory center is located in the \_\_\_\_ and \_\_\_\_\_\_.

A. Midbrain and pons   
B. Pons and Medulla oblongata   
C. Midbrain and Medulla oblongata   
D. Pons and Hypothalamus

Answer Key   
1. D 2. A 3. C 4. A 5. D 6. C 7. B 8. D 9. C 10. A 11. C 12. D 13. A 14. B 15. D 16. C 17. A 18. B 19. D 20.B

**Syndrome**

1. Which of the following syndromes corresponds to: A failure of neutrophils to generate an immune response and lab values indicate elevated IgE levels?

A. Job's syndrome   
B. Wiskott-Aldrich syndrome   
C. Carcinoid syndrome   
D. Mallory-Weiss syndrome

2. Which of the following syndromes corresponds to: right sided valvular disease and diarrhea?

A. Job's syndrome   
B. Wiskott-Aldrich syndrome   
C. Carcinoid syndrome   
D. Mallory-Weiss syndrome

3. Which of the following syndromes corresponds to: lab values indicate elevated IgA levels and presence of thrombocytopenia?

A. Job's syndrome   
B. Wiskott-Aldrich syndrome   
C. Carcinoid syndrome   
D. Mallory-Weiss syndrome

4. Which of the following syndromes corresponds to: presence of arthritis and commonly found in males?

A. Reiter's syndrome   
B. Sjogren's syndrome   
C. Kartagener's syndrome   
D. Ehlers-Danlos syndrome

5. Which of the following syndromes corresponds to: immotile sperm and presence of reoccurring sinusitis?

A. Reiter's syndrome   
B. Sjogren's syndrome   
C. Kartagener's syndrome   
D. Ehlers-Danlos syndrome

6. Which of the following syndromes corresponds to: presence of arthritis, xerophthalmia and commonly found in females?

A. Reiter's syndrome   
B. Sjogren's syndrome   
C. Kartagener's syndrome   
D. Ehlers-Danlos syndrome

7. Which of the following syndromes corresponds to: excessive movement occurring at joints and loose skin?

A. Reiter's syndrome   
B. Sjogren's syndrome   
C. Kartagener's syndrome   
D. Ehlers-Danlos syndrome

8. Which of the following syndromes corresponds to: hematuria, glomerulonephritis and pulmonary dysfunction?

A. Brown-Sequard syndrome   
B. Thoracic outlet syndrome   
C. Angelman's syndrome   
D. Goodpasture's syndrome

9. Which of the following syndromes corresponds to: presence of ipsilateral motor loss and contralateral spinothalmic tract damage?

A. Brown-Sequard syndrome   
B. Thoracic outlet syndrome   
C. Angelman's syndrome   
D. Goodpasture's syndrome

10. Which of the following syndromes corresponds to: C8/T1 nerve involvement and weakness in hand muscles?

A. Brown-Sequard syndrome   
B. Thoracic outlet syndrome   
C. Angelman's syndrome   
D. Goodpasture's syndrome

11. Which of the following syndromes corresponds to: maternal genetic phenotype syndrome?

A. Brown-Sequard syndrome   
B. Thoracic outlet syndrome   
C. Angelman's syndrome   
D. Goodpasture's syndrome

12. Which of the following syndromes corresponds to: Abnormal development of the 3rd and 4th (Pharyngeal pouches)?

A. Acute coronary syndrome   
B. ARDS   
C. Budd-Chiari syndrome   
D. DiGeorge's syndrome

13. Which of the following syndromes corresponds to: leads to an increased risk of stroke?

A. Acute coronary syndrome   
B. ARDS   
C. Budd-Chiari syndrome   
D. DiGeorge's syndrome

14. Which of the following syndromes corresponds to: abdominal pain, ascites, and hepatic vein occulsions?

A. Acute coronary syndrome   
B. ARDS   
C. Budd-Chiari syndrome   
D. DiGeorge's syndrome

15. Which of the following syndromes corresponds to: increased pulmonary permeability and fluid entering the lung space?

A. Acute coronary syndrome   
B. ARDS   
C. Budd-Chiari syndrome   
D. DiGeorge's syndrome

16. Which of the following syndromes corresponds to: can be caused by high doses of Tetracyclines?

A. Dubin-Johnson syndrome   
B. Fanconi's syndrome   
C. Edward's syndrome   
D. Cri-du-chat syndrome

17. Which of the following syndromes corresponds to: caused by poor liver excretion?

A. Dubin-Johnson syndrome   
B. Fanconi's syndrome   
C. Edward's syndrome   
D. Cri-du-chat syndrome

18. Which of the following syndromes corresponds to: chromosomal deficit of #5?

A. Dubin-Johnson syndrome   
B. Fanconi's syndrome   
C. Edward's syndrome   
D. Cri-du-chat syndrome

19. Which of the following syndromes corresponds to: chromosomal deficit of #18?

A. Dubin-Johnson syndrome   
B. Fanconi's syndrome   
C. Edward's syndrome   
D. Cri-du-chat syndrome

20. Which of the following syndromes corresponds to: chromosomal deficit of #13?

A. Dubin-Johnson syndrome   
B. Patau's syndrome   
C. Edward's syndrome   
D. Down syndrome

Answer Key   
1. A 2. C 3. B 4. A 5. C 6. B 7. D 8. D 9. A 10. B 11. C 12. D 13. A 14. C 15. B 16. B 17. A 18. D 19. C 20. B

**Urinary System**

1. The renal medulla is composed of tissue called \_\_\_\_\_\_.

A. Renal pyramids   
B. Nephrons   
C. Renal sinus   
D. Renal pelvis

2. Juxtaglomerular cells combine with \_\_\_\_\_\_\_ cells to form the juxtagomerular apparatus in the kidney.

A. Macula densa   
B. Renal pelvis   
C. Nephron   
D. Renal sinus

3. Which of the following is not in the sequence of proper kidney blood flow? The starting point is the renal artery and the finishing point is the renal vein.

A. Arciform artery   
B. Afferent arteriole   
C. Interlobar vein   
D. Arciform vein

4. Which is found in the highest concentration in the urine?

A. Uric acid   
B. Urea   
C. Glucose   
D. Creatinine

5. The primary function of the ascending loop of Henle in the kidney is?

A. The active re-absorption of sodium   
B. The active re-absorption of chloride ions   
C. The passive re-absorption of potassium   
D. The passive re-absorption of urea

6. The middle layer of the urinary bladder is identified as \_\_\_\_\_\_\_\_\_\_\_.

A. Mucous coat   
B. Submucous coat   
C. Muscular Coat   
D. Sphincter Coat

7. The micturition reflex center is located in the \_\_\_\_\_.

A. Pons   
B. Midbrain   
C. Lumbar plexus   
D. Sacral plexus

8. Which of the following match with the definition: a poor output of urine?

A. Oliguria   
B. Pyruia   
C. Enuresis   
D. Diuresis

9. Capillary loops located in the medulla are also known as \_\_\_\_\_\_\_\_\_.

A. Vasa recta   
B. Urea collectors   
C. Trigone   
D. Macula densa

10. The primary function of the descending loop of Henle in the kidney is?

A. Reabsorption of sodium ions   
B. Reabsoption of water by osmosis   
C. Secretion of hydrogen ions   
D. Secretion of potassium ions

11. Which of the following is not considered a part of the male urethra?

A. Prostatic   
B. Membranous   
C. Vasapore   
D. Penile

12. When glucose if found in urine it is called \_\_\_\_\_.

A. Glucosuria   
B. Uremia   
C. Ureteritis   
D. Glucose intolerance

13. Which of the following is not considered a component of kidney stones?

A. Calcium phosphate   
B. Uric Acid   
C. Calcium oxalate   
D. HCO3

14. The one of the functions occurring at the distal convoluted tubule in the kidney is?

A. Passive secretion of hydrogen ions   
B. Passive secretion of potassium ions   
C. Limited re-absorption of water   
D. No re-absorption of sodium

15. ADH has which of the following effects on the distal convoluted tubule?

A. Decrease water re-absorption   
B. Increase water re-absorption   
C. Decrease the concentration of urine   
D. Increase the urine volume

16. Which of the following is not associated with the role of the kidneys?

A. Release of erythropoietin (hormone)   
B. Release of renin (enzyme)   
C. Release of Vitamin E   
D. Activate Vitamin D

17. Each kidney contains approximately \_\_\_\_\_\_ nephrons.

A. 10 million   
B. 1 million   
C. 100,000   
D. 10,000

18. The release of Angiotension II causes which of the following to occur?

A. Increased filtration rate   
B. Decreased glomerular hydrostatic pressure   
C. Increase synthesis of Vitamin E   
D. Increased release of erythropoietin

19. Which of the following is an effect of a diuretic?

A. Decreased Cardiac Output   
B. Increased fluid volume   
C. Increased sodium re-absorption   
D. Increased chloride ion re-absorption

20. Which of the following is not considered a loop diuretic?

A. Bumetadine (BUMEX)   
B. Furosemide (LASIX)   
C. Chlorthiazide (DIURIL)   
D. Ethacrynic Acid (EDECRIN)

Answer Key   
1. A 2. A 3. C 4. B 5. B 6. B 7. D 8. A 9. A 10. B 11. C 12. A 13. D 14. B 15. B 16. C 17. B 18. A 19. A 20. C