

1. The blood is a specialized connective tissue because it is made up ....
2. The regulatory function of blood can be exemplified by ... Explain.
3. The protective function of blood is performed by ...
4. The heme portion of hemoglobin has \_\_\_\_ which is involved in O<sub>2</sub> transport.
5. The main plasma protein involved in blood clotting is ...
6. The main plasma protein involved in osmotic pressure is ...
7. The plasma protein involved in water retention and hormone transport is ...
8. The most abundant plasma protein is ...
9. What is the percentage of : albumin, globulin, and fibrinogen in the plasma?
10. The plasma is mainly made up ...
11. The normal pH of blood is ...
12. The main site of production of RBC in the adult is ...
13. What is the site of erythropoiesis in the embryo?
14. The graveyard of RBC is ...
15. The lifespan of RBC is ...
16. The percentage of RBC in a given blood sample express ...
17. The type of anemia which results from blood loss is ...
18. The type of anemia which results from lack of vitamin B12 or intrinsic factor is ...
19. If the bone marrow becomes dormant after chemotherapy, the individual will develop....What compound produced by the kidney affects RBC production (erythropoiesis)?
20. In the human body, the main supplier of iron is ...
21. The immature RBC are called ...
22. The young neutrophils are called ...
23. The adult neutrophils are called ...
24. The formed elements which are heavily involved in phagocytosis are ...
25. The rarest or scarcest white blood cells are ...
26. During a CBC, the percentage of: (a) neutrophils is ... (b) eosinophils is ...
27. What formed element secretes serotonin?
28. What formed elements are involved in a plug formation during hemostasis?
29. The scientific name for blood stoppage is ...

30. What are the three steps involved in hemostasis ...
31. Know the sequential events which occur during blood coagulation.
32. The lack of factor VIII (AHF) will result in ...
33. The increase of white blood cells during an infection is ...
34. The most abundant leukocytes are ...
35. If the white blood cell count is between 12,000 – 20,000, then the person has ...
36. During parasite infestation, the white blood cell called \_\_\_\_\_ will increase tremendously.
37. Type B has what type of agglutinogen and what an antibody (agglutinin)?
38. What is the probability of a man who has BB genotype and his wife who has BO genotype to have a child who is:
  - a. Type O: phenotype
  - b. Type B: phenotype
  - c. Type AB: phenotype
39. During blood typing, if neither anti A or anti B cause agglutination, the individual is ...
40. What anticoagulant affects platelet plug formation?
41. What are the characteristics of granulocytes?
42. What vitamin(s) has a bearing/effect on blood clotting, vitamin B12 or vitamin K?
43. What is the effect of RH on erythroblastosis fetalis?
44. Universal blood donor type is . . . . . because . . . . .
45. Universal blood recipient type is . . . . . because . . . . .
46. What type of blood will type A blood receive?
47. Know antigen and antibodies found in all the blood types.
48. If I am RH+ and my wife is RH+, can we have an RH- child? Why?
49. What plasma proteins are involved in cholesterol transport?
50. During microscopic scanning, you come across a WBC cell which is bi-lobed with red granules, You will diagnose it as . . . What is it's percentage during CBC?
51. What is the difference between plasma and serum?
52. The most abundant antibody is ...
53. The only antibody to cross the placenta barrier is ...
54. The antibody involved in allergy or anaphylactic shock is ...
55. Mast cell releases ...

56. If your patient suffers from kidney failure, he will most likely have anemia because ...
57. Name all the products found in the plasma.
58. If I am type AB, what antigens do I have?
59. An immunity which results from vaccination is called ...
60. The immunity which results from serum administration is called ...
61. What is the percentage of fibrinogen in the plasma?
62. Is the liver important in blood clotting, and why?
63. AIDS affects what type of T cells?
64. Why are T cells called that that way?
65. During antibodies production, B lymphocytes undergo metamorphosis. Explain the steps involved.
66. The first antibody (gamma globulin) to reach the site of infection is ...
67. The largest antibody is ...
68. Give three examples of autoimmune diseases.
69. A) If the hematocrit is 39 it means that you are dealing with a young female or a young male? B) If the hematocrit is 48 means you are dealing with a young female or a young male?
70. Is there a difference between plasma and plasma cell (plasmacyte)?
71. What formed elements give rise to macrophages?
72. Define opsonin, & complement
73. Humoral immune response implies . . .
74. What type of T-cells secrete lymphokine?
75. What type of T-cells facilitate B-lymphocytes to produce antibodies?
76. Natural active immunity results from . . . . .
77. Innate immunity means . . . . .
78. Antibodies are called . . . . or . . . . .
79. the largest antibody and the first one to reach the site of infection is . . . .

### **Chapter 3, 4 & 5: Cardiovascular system and Lymphatic System**

1. What are the main components of the cardiovascular system?
2. How many pumps does the heart have?
3. What structures keep the heart in the thorax?
4. How does the heart valves function? And what do they do?
5. What happens to the Atrial Ventricular valve when the atria contract?
6. The most inner layer of the heart is called?
7. The outermost layer of the heart which contains blood vessels is called?
8. Track down the pathway of a red blood cell from the right atria to the left atria?
9. Why does the heart need its own conductive system?
10. The natural pace maker of the heart is called? Where is its location?
11. Explain in simple words what happens when the heart muscle undergoes depolarization.
12. What is the use of EKG or ECG?
13. Track the electrical impulse from the SA node to the Perkinje Fibers. Name all of the steps involved.
14. Define the different cardiac waves (P,QRS,T).
15. Define stroke volume, cardiac output, cardiac reserve.
16. Define Systole and Dystole?
17. Enumerate and describe briefly all of the factors which affect heart rate.
18. What is the impact of sympathetic and parasympathetic nerve fibers on the heart?
19. What portion of the brain control the heart rate?
20. Explain the Frank Staling Law.
21. What system controls the heart rate at rest?
22. What is the main symptom of a heart attack?
23. What is the difference between Bradycardia and Tachycardia?
24. Identify all of the different layers of the blood vessels.
25. The tunica intima can also be called what? And Why?
26. What blood vessels take the blood back to the heart?
27. What arteries in your body do not carry oxygen?
28. What veins in your body do not carry CO<sub>2</sub>?
29. How many blood vessels does the umbilical cord have? Which one carries oxygenated blood?
30. Define blood pressure?
31. What is the normal arterial blood pressure?
32. What controls venous blood pressure?
33. What is the circulation time for blood?
34. Why is pulmonary pressure lower than arterial pressure?

35. List all the values of different blood pressure in your body.
36. What cardiovascular condition results in edema in the upper and lower extremities?
37. What type of blood vessels are involved in gas exchange?
38. What happens to the blood pressure when hematocrit is elevated?
39. What conditions can induce a) hypertension and b) hypotension?
40. What pathway does blood follow when the ventricles undergo contraction?
41. What instrument is used to access the heart electrical activity?
42. What do you call the circulation between the intestine and the liver?
43. What do you call the circulation that takes place in the fetus?
44. What do you call the circulation in your lungs?
45. Is there a difference between systemic and general circulation?
46. What is the impact of an excess of influx in the cardiac muscle?
47. What is the impact of the vagus nerve on the cardiac muscle?
48. What is the impact of acetylcholine on the cardiac muscle?
49. What is the difference between lymph and blood?
50. What lymphatic vessel drains the right upper quadrant? Left lower quadrant? Left upper quadrant?
51. Is thoracic duct the same as lymphatic duct?
52. List all of the organs which make up the lymphatic system.
53. What is the role of the lymphatic system?
54. What is lacteal?
55. What is the function of the thymus?
56. In which cavity is the thymus located?
57. What is the function of the lymph node?
58. Where do you find Peyer's Patches?
59. Name all of the functions of your spleen?
60. Identify the areas in the body where you find lymph nodes.
61. Identify the area in your body where you find lymphatic capillaries.
62. If someone is hemorrhaging will he be Hypertensive or Hypotensive? Bradycardia or Tachycardia?
63. What heart chambers pump the blood towards the artery.
64. Why does stress induce hypertension?
65. The heart layer sandwiched between tunica intra and tunica externa is called \_\_\_\_\_.
66. Another name for mitral valve is \_\_\_\_\_.
67. Give three examples which can cause hypertension.
68. In case of heart attack, will the patient develop hypertension or hypotension? Justify your answer.
69. How do atherosclerosis affect blood flow?
70. Why is it recommended to grandpa to stand up slowly after long night sleep?

## **Chapter 6: Respiratory System**

1. What are the different organs which make up the respiratory system? (cite them in order from the nose to the lungs and classify them into upper and lower respiratory tract.)
2. What alveolar cells produce surfactant? What is Surfactant?
3. The basic morphofunctional lung unit is called?
4. What structure disallow food or drink from going into the nasopharynx?
5. What structure is considered the lid of the lower respiratory tract and what is its function?
6. What structure of the larynx is superior to the trachea?
7. What cartilage of the larynx has laryngeal prominence, also called the Adam's Apple?
8. A) The Layer of pleura which is directly against the lung is called ?  
B) What layer of the pleura lines the thoracic cavity?
9. What cartilage of the larynx is elastic?
10. Name the nine cartilages which make up the larynx?
11. Define Glottis
12. What is the difference between the True and False vocal chords?
13. What is the function of the nasal cavity?
14. What cartilage(s) gives an attachment to the True vocal chords?
15. Define ALL Meatuses and Nares.
16. A Cleft Palate results from . . . . ?
17. Define the nasal cavity and name all structures which surround it.
18. What are the function of the laryngopharynx and oropharynx? (Discuss the type of epithelium that lines them.)
19. Explain the difference between external and internal respiration. Use  $PO_2$  and  $PCO_2$  values of different compartment to explain the laws of diffusion.
20. The portion of the pharynx close to the internal Nare is?
21. Differentiate olfactory epithelium and pseudostratified ciliated columnar epithelium.

22. What organs make up the conducting portion of the lower respiratory tract?
23. What organs make up the respiratory portion of the lower respiratory tract?
24. Define Dead Space and what are the organs involved on making it?
25. Define: a) Tidal Volume .b) Minute Respiratory Volume .c) Inspiratory Reserve .d) Volume of Expiratory Volume .e) Residual Volume
26. What is the difference between vital capacity and total capacity?
27. What is the difference between Spirogram and Spirometer?
28. The maximal amount of air that one can inspire and expire is called?
29. The chemical which dictates the way we breathe is called?
30. The main center for breathing is called?
31. Explain, in your own words, the difference between external respiration and pulmonary ventilation?
32. What type of respiration takes place between the tissue and the blood capillaries?
33. What Law deals with the different partial pressure of the gas which make up the air that we breathe?
34. Is inspiration an active or a passive function of the respiratory system and why?
35. Is exhalation passive or active and why?
36. What is the pressure of the air at sea level?
37. What is the percentage of each gas which make up the air that we breathe?
38. Is there any difference between Fick's Law and Henry's Law? Explain.
39. Define Boyle's Law.
40. What are the conditions required in order to inspire properly?
41. Name all of the inspiratory muscles.
42. Charles' Law states?
43. What is Bohr Effect?
44. Explain the function of DPG?
45. In the case plasma becomes saturated, with Hydrogen Ion, due to the fact that the patient is suffering from Emphysema, will give the symptom be classified as respiratory acidosis or metabolic acidosis?

46. What percentage of Oxygen is bound to hemoglobin?
47. What percentage of Carbon Dioxide is found in the blood as: .a) Bicarbonate .b) Carbamionohemoglobin .c) Free
48. In case we exhale forcefully to fill a balloon, what structures will be involved?
49. Define: .a) Emphysema .b) Rhinitis .c) Laryngitis .d) Tachpnea .e) Dyspnea .f) Apnea .  
g) Cheyne Stone.
50. What germ causes Tuberculosis?
51. What bones make up the Nasal Septum?
52. What muscles are involved during expiration and inspiration?
53. What is C.O.P.D.?
54. What is the most prevalent combination of Carbon Dioxide in the blood? A) Bicarbonate .B) Carbon Dioxide .C) Carbaminohemoglobin
55. Explain each of the following, Asthma, Pneumonia, and Emphysema.
56. What is the difference between Terminal Bronchiole and Respiratory Bronchiole?
57. What center in the Pons is involved in Inspiration?
58. Describe the conchae and their function.
59. Cite all of the functions of the respiratory system.
60. Cite all of the functions of the Paranasal Sinuses
61. What is Nasolacrimal Duct?
62. The Throat is also known as . . . . ?
63. In which portion of the pharynx will you find Pseudostratified Ciliated Columnar Epithelium?
64. Define Deglutition
65. Name the passage way between the Trachea and the Lungs.
66. What is the Mediastinum?
67. What is Surfactant?
68. Define Pneumonia
69. Establish a correlation between Chemoreceptors and Respiration.
70. What gas has more binding power to hemoglobin – carbon monoxide or oxygen? Explain why.



## Chapter 7: The Digestive System

1. What are the different structures which make up the alimentary canal?  
\_\_\_\_\_
2. What are the different structures which are considered accessory or associated structures of the digestive system? \_\_\_\_\_
3. Define:  
Ingestion - \_\_\_\_\_  
Peristalsis - \_\_\_\_\_  
Defecation - \_\_\_\_\_  
Digestion - \_\_\_\_\_
4. The archway between the oral cavity and the pharynx is called \_\_\_\_\_?
5. The portion of the teeth which protrudes from the gum is \_\_\_\_\_?
6. The portion of the teeth that is embedded in the gums is called \_\_\_\_\_?
7. The \_\_\_\_\_ covers the crown.
8. The \_\_\_\_\_ covers the neck and the root.
9. An adult has \_\_\_\_\_ permanent teeth.
10. Deciduous teeth are also called \_\_\_\_\_ and they erupt between \_\_\_\_\_ and \_\_\_\_\_. Their total number is \_\_\_\_\_?
11. The strongest substance in the body is \_\_\_\_\_?
12. The layer of the small & large intestine closest to the lumen is \_\_\_\_\_?
13. The sublayer of the small intestine mucosa close to the lumen is \_\_\_\_\_?
14. The most outer layer of the stomach and the large intestine is \_\_\_\_\_?
15. The parietal cells of the stomach produce \_\_\_\_\_?
16. The other name for parietal cells is \_\_\_\_\_?
17. Pepsinogen is produced where? \_\_\_\_\_
18. Pepsin is an enzyme that breaks down \_\_\_\_\_ in the stomach.
19. When Pepsinogen is converted into pepsin by the hydrochloric acid, what other product result from this chemical reaction? \_\_\_\_\_ What is the main function of this product? \_\_\_\_\_
20. The most prevalent polysaccharide of the diet is \_\_\_\_\_.
21. The terminal portion of the small intestine is the \_\_\_\_\_.
22. The portion of the small intestine sandwiched between the duodenum and ileum is the \_\_\_\_\_?
23. The first and shortest portion of the small intestine is the \_\_\_\_\_.
24. The permanent folds found in the small intestine are called \_\_\_\_\_.
25. The folds of the stomach which are transient based upon the fullness or emptiness of the stomach are called \_\_\_\_\_.
26. The \_\_\_\_\_ emulsify fats.
27. The enzyme which breakdown fat is called \_\_\_\_\_.

28. The enzymes which convert small peptides deriving from protein breakdown into amino acids are called \_\_\_\_\_.
29. When protein gets converted to glucose the process is called \_\_\_\_\_.
30. The sum of all chemical reactions taking place in the body is called \_\_\_\_\_.
31. What are the different compounds which make up the saliva?  
\_\_\_\_\_.
32. The structure which attaches the tongue in the mouth floor is \_\_\_\_\_.
33. The salivary gland located inferior to the ear is the \_\_\_\_\_.
34. If the cardia remained open, after a heavy meal, the person would suffer from \_\_\_\_\_.
35. What happens during the voluntary phase of swallowing?  
\_\_\_\_\_.
36. What are the different layers of the wall of the small intestine and the stomach?  
\_\_\_\_\_  
\_\_\_\_\_.
37. What stomach enzymes breakdown peptide bonds? \_\_\_\_\_
38. Define:  
Chyme \_\_\_\_\_
39. What stimulates the secretion of gastric juices?  
\_\_\_\_\_.
40. When does the bulk of absorption take place? \_\_\_\_\_
41. Gingiva is another name for \_\_\_\_\_.
42. The connective tissue which anchors the tooth to the gums is \_\_\_\_\_
43. List the five functions of Gastrin 1) \_\_\_\_\_  
2) \_\_\_\_\_ 3) \_\_\_\_\_  
4) \_\_\_\_\_ 5) \_\_\_\_\_
44. What are the substances that stimulate stomach enzymes? \_\_\_\_\_
45. What type of foodstuffs spend more time in the stomach? \_\_\_\_\_
46. What chemical allows one to absorb vitamin B12 that we get from our diet?  
\_\_\_\_\_
47. The aperture of the mouth to the oropharynx is \_\_\_\_\_
48. In which portion of the alimentary canal will you find skeletal muscle instead of smooth muscle?  
\_\_\_\_\_
49. What is the difference between villi and microvilli? \_\_\_\_\_
50. What is the function of insulin? \_\_\_\_\_
51. What do these enzymes do for you?  
a. Lactase: \_\_\_\_\_  
b. Sucrase: \_\_\_\_\_  
c. Trypsin: \_\_\_\_\_
52. List the functions of the Liver: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.
53. What are Lacteals? \_\_\_\_\_
54. How do chylomicrons reach the left subclavian vein? \_\_\_\_\_  
\_\_\_\_\_.

55. What role does the small intestine play? \_\_\_\_\_
56. Where does the large intestine begin? \_\_\_\_\_
57. Name all of the proenzymes produced by the Pancreas: \_\_\_\_\_  
\_\_\_\_\_
58. Where is Bile produced and stored? \_\_\_\_\_
59. Why is the digestive system unable to digest cellulose? \_\_\_\_\_  
\_\_\_\_\_
60. Why do we need fibers in our diet? \_\_\_\_\_  
\_\_\_\_\_
61. Why is the pancreas an exocrine gland? \_\_\_\_\_  
\_\_\_\_\_
62. Swallowing is called \_\_\_\_\_.
63. The skin synthesizes vitamin D by using \_\_\_\_\_.
64. The bulging region of the stomach is called \_\_\_\_\_.
65. The region of the stomach close to the duodenum is \_\_\_\_\_.
66. What is the function of:
- a) CCK - \_\_\_\_\_
  - b) somastatin - \_\_\_\_\_
  - c) gastric inhibited peptide - \_\_\_\_\_
67. What is the difference between the external and internal sphincter functions?  
\_\_\_\_\_  
\_\_\_\_\_
68. How do the large intestine produce vitamin K and B12?  
\_\_\_\_\_  
\_\_\_\_\_
69. Define:
- Calorie - \_\_\_\_\_
  - Glycogenesis - \_\_\_\_\_
  - Gluconeogenesis - \_\_\_\_\_
  - Lipogenesis - \_\_\_\_\_
70. The fusion of the cystic duct and the common bile duct result in \_\_\_\_\_.
71. Churning means \_\_\_\_\_.
72. The \_\_\_\_\_ ligament connects the liver to the abdomen.
73. What events take place during segmentation?  
\_\_\_\_\_
74. Name the four components that make up the Biliary System. 1) \_\_\_\_\_  
2) \_\_\_\_\_ 3) \_\_\_\_\_ 4) \_\_\_\_\_
75. The bulging succession of the large intestines is called \_\_\_\_\_.

## **Urinary System**

1. The urinary system is composed of...
2. The primary (vital) organs of the urinary system are the...
3. Describe the location of the kidneys.
4. The most outer region of the kidney is called...
5. The region of the kidney occupied by the pyramid and columns is...
6. The region of the kidney which continues with the ureters is called...
7. The area of the kidney where blood vessels enter and leave is called...
8. Track the flow of urine from the kidneys to the urinary bladder...
9. The functional unit of the kidney is the...
10. Each nephron consists of ...
11. The ball of fenestrated capillaries found in the renal corpuscle is...
12. The efferent arterioles give rise to... in the medulla.
13. The peritubular capillaries connect with the venous circulation through...
14. Define glomerular filtration rate.
15. Where does filtration take place?
16. The combination of glomerulus plus Bowman's capsule results...
17. Define tubular secretion.
18. Define tubular reabsorption.
19. The vasa recta are the extensions of which blood vessels?
20. The normal components of a urine sample are...
21. The abnormal components of the urine sample are...
22. Explain how micturition takes place in the adult?
23. What's the main difference between micturition in an infant and an adult?
24. What is the normal PH of the urine? Cite two factors which can affect PH.
25. The juxtaglomerular apparatus is made up of...
26. What is the normal amount of urine that a healthy adult excrete each day?
27. What is the minimum amount of urine that a healthy adult has to excrete each day?
28. What does the kidney do to regulate the blood PH?
29. What is a diuretic? Give three examples.
30. Where does rennin originate from? Why is rennin important for our well-being?

31. What impact does alcohol has in the urinary system? Explain.
32. How alcohol consumption affects micturition?
33. What is the etiology of the diabetes insipidus? What are the main symptoms of this illness?
34. What is the function of the aldosterone? Where is aldosterone produced?
35. What is the normal specific gravity of urine?
36. Does the steroid production take place in the kidney?
37. Track the pathway of an RBC from the renal artery to the inferior vena cava.
38. The glomerulus is a strainer, name the normal chemicals which seep through during filtration.
39. What type of epithelium is found in the urinary bladder?
40. What structures are sandwiched between the kidneys and the urinary bladder?
41. What is the trigone?
42. What hormone allows one to retain water when one is stranded in the desert without water?
43. What bacteria infection results in the acute glomerulonephritis?
44. Discuss about kidney stones.
45. What is the function of the ureters? How do they fulfill their role?
46. Acute renal failure means...
47. Where does angiotensinogen come from? Explain renin angiotensinogen events when hypotention occur.
48. What factors can affect urine concentration?
49. What is the difference between metabolic and respiratory acidosis?
50. What is the difference between metabolic and respiratory alkalosis?
51. What is pyelonephritis? Outline the main symptoms.
52. Do women have prostatic and membranous urethra?
53. What is the consequence of the shortness of the urethra in ladies?
54. Describe three events which can make urinary bladder unable to retain urine.
55. In physiological condition due to water loss occurs mainly from the skin or from the kidney.
56. Discuss of different electrolytes involved in cell function.
57. Define edema. Give two examples which can result in edema.
58. What blood vessel supplies blood to the glomerulus?
59. The blood leaving the glomerulus will continue it's trajectory by first passing through...
60. Urine is the result of the ultrafiltration process which takes place in the...

**Reminder:** The study guide will help you prepare for your final, but it's not there to replace all of the information that was covered throughout the semester. Therefore, I strongly recommend you to study all of your notes before you use the study guide.

## Chapter 1

### **Cardiovascular System**

#### **Blood**

- 1.) What are the 3 main functions of the blood?
- 2.) What are the different roles of these proteins?
  - A. albumin
  - B. alpha and beta globulins
  - C. gamma globulins
    - their origin
    - their different types and role
- 3.) What is the largest immunoglobulin called and what is its function?
- 4.) What is the most abundant immunoglobulin called and what is its function?
- 5.) What is the name of the immunoglobulin which is involved in an allergic reaction?
- 6.) When an individual receives a serum what type of immunity is that?
- 7.) When an individual gets measles and becomes cured what type of immunity will he have and why?
- 8.) Discuss about antigen and antibody.
- 9.) What blood protein is involved in blood clotting?
- 10.) What is the difference between serum and plasma?
- 11.) What's the main function of:
  - A. platelet
  - B. neutrophil
  - C. basophil
  - D. eosinophil
  - E. lymphocyte: What is the difference between lymphocyte b and lymphocyte d.
  - F. monocyte
- 12.) Among all of these formed elements mentioned above which of them are considered phagocytes and why?
- 13.) If a man has a genotype AB and his wife has a genotype AO, what is the probability of them having a child who is AA?

- 14.) If a man is RH positive and his wife is RH positive can you predict with certainty that all their children born in this union will be RH positive and why?
- 15.) If an individual is losing blood what type of hemorrhaging will he have?
- 16.) If an individual has a diet poor in vitamin B12 and lacks the intrinsic factor what type of anemia will he have?
- 17.) If an individual is exposed to an intense chemo therapy what type of anemia will he have?
- 18.) What is a hematocrit?
- 19.) Name all of the factors that you think affect blood clotting?  
Site how the factors below effect blood clotting
  - a. Calcium
  - b. Vitamin K
  - c. Liver
  - d. Thromboplastinogen
  - e. Prothrombine
- 20.) What does erythropoietin and vitamin B12 do as far as blood is concerned?
- 21.) What are the different layers which make up the wall of the artery?
- 22.) What is the difference between a venous blood and an arterial blood?
- 23.) What pulmonary blood vessel carries oxygenated blood to the left atria?
- 24.) What controls venous blood pressure?
- 25.) If someone is hemorrhaging will he be hypotensive or hypertensive. Will he have bradycardia or tachycardia?
- 26.) Trace the path of red blood cells going from the right atria to the left ventricle.
- 27.) What type of circulation takes place in
  - a. Liver
  - b. Lungs
  - c. Fetus
- 28.) Define
  - a. circulation time
  - b. systole
  - c. diastole
  - d. blood pressure
- 29.) Where is the cardio regulatory center located?
- 30.) How many blood vessels are found in the umbilical cord?
- 31.) What does T wave depict?  
What does P wave depict?  
What does QRS wave depict?

- 32.) The natural pace maker of the heart is called....
- 33.) Its impulse reaches the purkinje fibers by going through....
- 34.) Discuss about the chemo receptors and baro receptors.
- 35.) Name the different heart valves that you know and the location.

### **Lymphatic System**

- 1.) Name all of the organs that make up the lymphatic system.
- 2.) What is the main function of the spleen and tonsils?
- 3.) What lymphatic vessel drains the left upper quadrant?
- 4.) Where does the lymph leaving the lactile go before it reaches the left subclavian vein?
- 5.) What is the difference between lymph and blood?
- 6.) Give all of the functions of the lymphatic system.
- 7.) What lymphatic vessel drains the right lower quadrant?
- 8.) What are the two main functions of the thymus?
- 9.) What's the function of the lymph node?
- 10.) Where are the lymph nodes located?
  - a. Superficial....
  - b. Deep....

### **Cardiovascular**

- 1.) What type of T-cells are involved
  - a. Auto-immune disease
  - b. Aids
- 2.) What is the serous membrane which covers your heart?
- 3.) Name the different layers of your heart?
- 4.) What are the functions of the heart valve?

### **Respiratory System**

- 1.) What are the different organs of the upper respiratory tract? Site them in order.
  - a. From the larynx all the way to the lungs
  - b. The basic unit of the lung is called....
- 2.) What cell in the alveoli produces surfactant?
- 3.) What is the lid of the lower respiratory tract?
- 4.) What structure allows food or drink to go to the nasopharynx?



- 5.) What structure of the larynx is superior to the trachea?
- 6.) What cartilage of the larynx contains the Adams apple?
- 7.) What cartilage of the larynx is elastic?
- 8.) What are the three cartilage of the larynx are single and the three orders which are impaired?
- 9.) What is the function of the oropharynx and the larangopharynx?
- 10.) What is the function of the nasal cavity?
- 11.) What is the function of the concha?
- 12.) What is the name of the serous membrane which covers your lung?
- 13.) What chemical controls the way we breathe?
- 14.) Where is the respiratory center located?
- 15.) What is the difference in the opneustic center and the pneumotaxic center?  
Where are they located?
- 16.) Does the pons and the medulla oblongata work together during inspiration and expiration?
- 17.) What instrument is used to measure the lung volumes?
- 18.) Define all of the lung volumes...
  - a. Tidal volume
  - b. ERV
  - c. IRV
  - d. MRV
- 19.) What is the main difference between total capacity and vital capacity?
- 20.) What is the difference between pulmonary ventilation and pulmonary respiration?
- 21.) What is the difference between tissue respiration and breathing?
- 22.) What are the muscles involved during inspiration and expiration?
- 23.) Define:
  - a. Boyle's law
  - b. Dalton law
  - c. Henry law
  - d. Ficks law
  - e. Charles law
- 24.) CO<sub>2</sub> is mainly found in the blood .....
- 25.) What is the most prevalent combination of CO<sub>2</sub> in the blood?
  - a. Is it Bicarbonate
  - b. Is it carbon oxide
  - c. Is it carbomino hemoglobin

- 26.) Between oxygen and carbon oxide which one has more affinity hemoglobin?
- 27.) What is COPD?
- 28.) Discuss about Asthma, Emphysema, and pneumonia.
- 29.) What are the portions of the respiratory tree which are only conductive and which one are mainly respiratory?
- 30.) What is the difference between a terminal bronchiole and a respiratory bronchiole?

### **Digestive System**

- 1.) What are the different portions of the alimentary canal?
- 2.) What structures make up the accessories organs of the digestive system?
- 3.) Define:
  - a. Peristalsis
  - b. Deglution
  - c. Swallowing
  - d. Digestion
  - e. Ingestion
- 4.) How many permanent teeth does an adult have?
- 5.) How many baby teeth does a child have?
- 6.) What layer of the tooth is covered by
  - a. Enamel
  - b. Cementum
- 7.) What do you call the portion of the teeth that protrude from the gum?
- 8.) Where is the bile produced and what does it do?
- 9.) Where is the bile stored?
- 10.) What portion of the digestive tract is sandwiched between the throat and the stomach?
- 11.) What do you call the valve between the stomach and the esophagus?
- 12.) What happens if the aforementioned valve remains open?
- 13.) What do you call the valve between the stomach and the duodenum?
- 14.) What is the last portion of the stomach close to the duodenum called?
- 15.) What is the name of the fold found in the mucosa of the stomach?
- 16.) What is the function of the
  - a. Parietal cells
  - b. Chief cells
  - c. Enteroendocrine cells
  - d. Mucous neck cells

- 17.) What results will you obtain when pepsinogen combines with hydrochloric acid?
- 18.) What hormone keeps the pyloric sphincter loose?
- 19.) The first portion of the small intestine is called...
- 20.) The middle portion of the small intestine is called...
- 21.) Among all of those which one is the longest?
- 22.) What valve is found between the ileum and the cecum?
- 23.) The last segment of the colon is called?
- 24.) Where does the measure absorption of the digested nutrients take place?
- 25.) The remaining water which is not absorbed by the small intestine is absorbed where?
- 26.) What is the main function of the large intestine?
- 27.) How are the water soluble vitamins absorbed?
- 28.) How are the fat soluble vitamins absorbed in the small intestine?
- 29.) What are the different types of fat soluble vitamin and their functions?
- 30.) What are the different function of the water soluble vitamins and their functions?
- 31.) Define:
  - a. Metabolism
  - b. Catabolism
  - c. Anabolism
- 32.) What enzyme breaks down fat? The process is called...
- 33.) What enzyme breaks down starch? Why does the same enzyme can not break down cellulose?
- 34.) What enzyme breaks down protein in the stomach?
- 35.) What enzymes break down proteins in the small intestine? Where are those enzymes mainly produced?
- 36.) When cystic duct and common hepatic duct fuses the resulting duct is called...
- 37.) When the common bile duct fuses with the pancreatic duct the resulting duct is called...
- 38.) The exocrine function of the pancreas can be illustrated by the production of what? What do those chemicals do?
- 39.) The endocrine function of the pancreas can be illustrated by the production of what? What do those chemicals do?
- 40.) What are the functions of the large intestine?
- 41.) The permanent fold of the large intestine is called...
- 42.) The bulging structures of the large intestine are called...
- 43.) What vitamins are produced by the large intestine?
- 44.) What vitamins does the body produce by using the sunlight?

- 45.) What vitamins protect an individual from rickett?
- 46.) What are the structures which protrude from the mucosa of the small intestine called?
- 47.) What ligament links the liver to the abdomen?
- 48.) What is greater omentum?
- 49.) What are the four components which make up the biliary system?
- 50.) What is the function of CCK or cholecystokine and secretine?
- 51.) What salivary gland is located inferior to your ear?
- 52.) Why does starch digestion start in you mouth?
- 53.) Define: Chyme
- 54.) What increases gastric juice release?
- 55.) Does caffeine and alcohol have something to do with digestion? If yes/no what?

### **Urinary System**

- 1.) What are the main functions of the urinary system?
- 2.) Name all of the structures which make up the urinary system in order.
- 3.) Describe anatomically the location of the kidneys.
- 4.) The primary structure of the urinary system is called.
- 5.) The functional units of the kidney are called. What is it made of?
- 6.) The renal corpuscle consists of what?
- 7.) What type of epithelium do you find in the urinary bladder?
- 8.) What area of the kidney allows the blood to go in and leave the kidney?
- 9.) What organ of the urinary system is involved in filtration of blood?
  - i. Is it the kidney?
  - ii. Is it the urinary bladder?
  - iii. Is it the urethra?
 Why?
- 10.) The mucosa of the urinary bladder is called...
- 11.) The movement of blood from the abdominal aorta to the segmental artery passes through...
- 12.) The blood vessel which enters the glomerulus is called...
- 13.) The blood vessel which leaves the glomerulus is called...
- 14.) Histology wise what is glomerulus?
- 15.) If you combine bowman capsule and glomerulus what structure will you have?
- 16.) What mineral corticoid is responsible in sodium absorption and potassium excretion?

- 17.) What chemical allows one to retain water?
- 18.) What chemical by the hypothalamus allows one to retain water?
- 19.) What hypothalamus chemical is inhibited after alcohol consumption?
- 20.) What is the difference between metabolic acidosis and respiratory acidosis?
- 21.) What is the difference between metabolic acidosis and metabolic alkalosis?
- 22.) Track the path of a drop of urine from the proximal convoluted tubule to the collecting duct...
- 23.) What is the name of the muscle layer of the urinary bladder?
- 24.) What is the name of the smooth area of the urinary bladder?

### **Reproductive System**

- 1.) The primary organ of the female reproductive system is called...
- 2.) The primary organ of the male reproductive system is called...
- 3.) Another name of the male gonad is called....
- 4.) The production of the sperm cells in the testicle takes place in the...
- 5.) Sperm production by the testicle is stimulated by...
- 6.) The production of testosterone by the Leydig is under the stimulation of...
- 7.) The testicle is a exocrine organ because of...
- 8.) The testicle is a endocrine function because of...
- 9.) The ducts sandwiched between the efferent ductules and the tubuli recti are called a ...
- 10.) Trace the pathway of a sperm cell from the rete testes to the urethra.
- 11.) The site for sperm maturation and storage is called....
- 12.) The swollen portion of the vas deferens is called the...
- 13.) After vasectomy, is a man still able to ejaculate? If yes, what type of semen will he have?  
If no, why can't he ejaculate?
- 14.) What is the main difference between vasectomy and castration?
- 15.) What are the components that make up the spermatic cord?
- 16.) The fusion of the ampulla and the seminal vesicles result in the formation of the...
- 17.) The accessory gland which is located superior to the urinary bladder ...
- 18.) The accessory gland which is located inferior to the urinary bladder...
- 19.) The gland which produces the bulk of semen is called...
- 20.) The gland which provides alkalinity to the semen is called...
- 21.) Semen is what?

- 22.) The muscle that moves the testicle and allows the testicle to ascend and descend according to temperature is called...
- 23.) The minimum amount of sperm cell per cc required by the World Health Organization to declare a man fertile is....
- 24.) The layer of the penis which surrounds the urethra is called...
- 25.) The layer of the penis which make up the bulk of the dorsal lateral region is called....
- 26.) The tip of the penis is called...
- 27.) The sperm composition, what is semen composed of?
- 28.) The ovaries are an exocrine organ because of ....
- 29.) What hormone stimulates follicular growth?
- 30.) The surge of ...induces ovulation.
- 31.) During the first period of the menstrual cycle does the estrogen level increase or decrease?
- 32.) During the second stage of menstrual cycle does the progesterone level decrease or increase?
- 33.) In a menstrual cycle of 28 days what would be the ideal day for a lady to conceive?
- 34.) In a menstrual cycle which day would be considered the first day day 1 or day 28?
- 35.) In a menstrual cycle of 28 days what day would a lady have her menses
  - a. Day 1 to day5
  - b. Day 9 to day 12
  - c. Day 14 to day 19
  - d. Day 22 to day 27
- 36.) What are the two hormones which are commonly found in the birth control pill?
- 37.) What is the site for fertilization?
- 38.) In which portion of the fallopian tube does fertilization take place?
- 39.) What are the 3 different portions of the fallopian tube called?
- 40.) How many days approximately does a fertilized egg stay in the fallopian tube?
- 41.) In which area of the uterus does the embryo nest?
- 42.) What layer of the uterus is under the influence of oxytocin?
- 43.) What sub-layer of the uterus is shed every month during the menstrual cycle?
- 44.) What hormone is detected during the urine test in a pregnant lady?
- 45.) What hormone is involved in milk production when a lady is lactating?
- 46.) What hormone causes milk let down?
- 47.) What structure within the fallopian tube produces progesterone?

- 48.) How does progesterone prevent pregnancy?
- 49.) What component in the female is homologous in the penis?
- 50.) What component of the female is homologous to the scrotum?
- 51.) Name all of the components which make up the female external genitalia?
- 52.) The other name of the birth canal is called...
- 53.) The region of the uterus close to the vagina is called...
- 54.) In the head of the sperm what does the nucleus contain?
- 55.) In the head of the sperm what does the acrosome contain?
- 56.) What makes the sperm cross the Zona Pelucida?
- 57.) What extra embryonic membrane surrounds the fetus?
- 58.) What do you call the fluid released by the membrane?
- 59.) The outermost extra embryonic membrane surrounding the fetus is called...
- 60.) How many chromosomes does the human embryo have?