

# PERCY ANSWER KEY

## Final Exam Study Guide

### Senses

1. What is conjunctivitis? *inflammation of the mucus membrane covering the eye*
2. What is the area of the retina called that lacks photoreceptors? *blind spot*
3. Unequal or imperfect curvatures of the lens or cornea that can cause blurred vision is called: *astigmatism*
4. When an image enters the peripheral vision of your LEFT eye, it is interpreted where? *left visual cortex of the brain*
5. What is the pathway of light, going from superficial to the inner most part of the eye?  
*cornea → aqueous humor → pupil → lens → vitreous humor → retina*
6. The receptors that detect deep pressure are called *Pacinian* corpuscles.
7. Where are the receptors located that detect dynamic equilibrium in the ear?  
*semicircular canals*
8. What is the name of the tube that connects the middle ear and the throat?  
*Eustachian tube*
9. What receptors are located at the superior part of the nasal cavity that allows you to smell things?  
*olfactory receptors*
10. Gustatory cells are associated with what sense?  
*taste*

### Endocrine System

11. What gland releases calcitonin?  
*thyroid*
12. When glucose levels are high, what hormone does the pancreas produce?  
*insulin*
13. What gland releases the hormone needed for you to react to a fight or flight response?  
*adrenal*
14. What effect does aldosterone do to the kidney?  
*reabsorbs Na and ↑ excretion of K*
15. What causes ANP to be secreted in the body?  
*increase in blood pressure*
16. What hormone is released when someone has low glucose levels in the blood?  
*glucagon*
17. If you're dehydrated, what hormone would be released due to a decrease in blood pressure?  
*ADH*
18. Where is the thyroid gland located?  
*on trachea*
19. What is an antagonist to insulin when glucose levels are low?  
*glucagon*
20. What hormone increases the absorption of glucose in cells?

### Blood

21. What do erythrocytes do?  
*transport oxygen*
22. What will happen to an Rh- person if they receive Rh+ blood the first time?  
*become sensitized to it and produce antibodies*

23. What are the functions of leukocytes?  
fight foreign bodies, migrate to site of infection
24. In what circumstance do neutrophils increase in the bloodstream?  
during infections
25. What is given to a pregnant Rh- mother after she has an Rh+ baby to prevent the second baby from having erythroblastosis fetalis?  
RhoGam

26. What is the function of thrombocytes?

27. What do blood banks have to add to donated blood before it is given to a recipient?  
blood clotting  
anticoagulants

28. What is the normal range for hemoglobin?  
12-18 g / 100 ml

29. What are the functions of basophils?

contain histamine and heparin - function during allergy attacks

30. List nonliving components of blood.

nutrients, hormones, proteins, dissolved gases, wastes, salts, H<sub>2</sub>O

### Lymphatic and Immune System

31. What organ destroys worn out red blood cells and recycles some of the products back to the liver?  
spleen

32. What are the first lines of defense of the body?

skin, mucus membranes

33. What are the proteins called that protect nearby cells and stop multiplication of viruses?

interferon

34. Where do B cells develop immunocompetence?

bone marrow

35. What are the functions of macrophages?

ingests invaders, acts as antigen presenters

36. What is responsible for stopping or slowing the activity of B and T cells once the infection is over?

suppressor T cells

37. What type of cell can respond years later in response to an infection you have had before (long term immunity)?  
memory B cells

38. What are the antigens called that are found on our own cells that identify them as "self", preventing your body from attacking them?  
major histocompatibility complex

39. What does the spleen hide during bacterial infections?

zinc and iron

40. When does the primary response peak?

10 days

### Heart

41. What is the function of pericardial fluid?

lubricates; allows heart to beat in a frictionless environment

42. List the correct direction of blood flow in relation to pulmonary circulation:

right side of heart → lungs → left side of heart

43. List the correct direction of blood flow in relation to systemic circulation:

left side of heart → body tissue → right side of heart

44. What is the function of the semilunar valves?

guard base of large arteries leaving the ventricles

45. Oxygen poor blood moves from the right atria through what valve to get to the right ventricle?

tricuspid

46. Oxygen rich blood moves from the left atria through what valve to get to the left ventricle?

bicuspid

47. The “dup” sound occurs when what valves close?  
*semilunar valves*
48. What do heart murmurs typically indicate?  
*leaky valves*
49. The pacemaker of the heart is what structure?  
*SA node*
50. In an electrocardiogram, the wave that indicates atrial depolarization is the:  
*P wave*

### Circulatory System

51. What artery serves the tissues external to the skull?  
*external carotid*
52. What is the name of the largest vein inferior to the thorax?  
*inferior vena cava*
53. What vein drains the liver?  
*hepatic*
54. Blood vessels that always carry blood away from the heart, and usually carry oxygen are called:  
*arteries*
55. What factors can influence arterial blood pressure?  
*blood viscosity, heart rate, vessel diameter*
56. What is the name of the vessel that brings blood to the kidneys?  
*renal*
57. What artery would you listen to in order to determine blood pressure?  
*brachial*
58. What vessel carries nutrient rich blood from digestive organs to the liver for processing?  
*hepatic portal vein*
59. What special circulation protects the brain by supplying more than one route to reach all brain tissue?  
*circle of Willis*
60. If someone has a blood clot behind their knee, what artery is affected?  
*popliteal*

### Respiratory System

61. What closes off the lumen of the larynx when swallowing?  
*epiglottis*
62. Where is the actual site of gas exchange?  
*alveoli*
63. When the diaphragm contracts, air
- |                            |                           |
|----------------------------|---------------------------|
| a. rushes out of the lungs | c. rushes out of the nose |
| b. rushes into the lungs   | d. all of the above       |
64. What happens to the pressure inside the lungs when the diaphragm contracts?  
*decreases*
65. What happens to the internal volume of the thorax when the diaphragm contracts?  
*increases*
66. Where will the carbon dioxide go if the alveolar air  $PCO_2$  is 40, and the plasma  $PCO_2$  is 45?  
 What type of respiration is this an example of? *from plasma to air*
67. The  $PCO_2$  of the veins is
- |                                       |                                  |
|---------------------------------------|----------------------------------|
| a. higher than the $PCO_2$ of air     | c. lower than the $PCO_2$ of air |
| b. lower than the $PCO_2$ of arteries | d. all of the above              |
68. Control of respiration in the nervous system is centered where?  
*medulla, pons (brain stem)*
69. Surfactant helps to prevent the alveoli from collapsing by:  
*interferes with cohesiveness of water, reducing surface tension in the alveoli*

Fatal genetic disease that creates viscous mucus, coughing

70. What are the characteristics of cystic fibrosis and tuberculosis?

↑  
TB - bacterial infection causing scar tissue in lungs, spread by coughing

### Digestive System

71. In what places does chemical digestion occur?

Mouth, stomach, small intestine

72. List the correct pathway of food through the alimentary canal.

Mouth, pharynx, esophagus

73. In the stomach, pepsin is produced by gastric cells to begin digestion of the protein (pepsin)

74. What is the main function of the small intestine?

absorb nutrients

75. In the duodenum, protein is broken down by the enzyme trypsin secreted by the

pancreas.

76. What is the name for the process of making glucose from non-carbohydrate substances within the liver?

gluconeogenesis

77. What process will the liver start if it receives hypoglycemic blood?

gluconeogenesis

78. What are the things the large intestine CAN absorb?

salt ions, B vitamins, water

79. If your TMR is greater than your calorie consumption, what will happen to your weight?

you lost weight

80. Where are protein digesting enzymes produced (name two)?

small intestine, pancreas

### Urinary System

81. What structure is where high blood pressure forces out fluids and solutes out of the plasma?

glomerulus

82. What does pressure filtration remove?

glucose, amino acids, salts

83. The difference between the blood in the renal artery and the renal vein is:

artery has oxygenated, unfiltered blood

84. Stretch receptors in the heart monitor high blood volume and release:

ANH

85. If low arterial blood pressure is excessive, the glomerular pressure:

drops and filtration decreases

86. What area of the kidney contains the glomeruli?

cortex

87. What is the function of ADH?

causes water to be absorbed

88. What is the function of ANH?

keeps Na and water from being absorbed

89. What is the flow of urine from the collecting tubules?

calyces → renal pelvis → ureter → bladder → urethra

90. What is the name of the structure that has the renal artery, renal vein, and ureter all join together?

renal hilum

### Reproductive System

91. What hormones do the ovaries make?

estrogen, progesterone

92. What structure receives, retains, and nourishes fertilized ovum?

uterus

93. Where does fertilization occur?

OVIDUCT

94. What membrane forms the site of the umbilical cord?

AMNION

95. What are the functions of the placenta?

96. Between 21-30 WEEKS, PROVIDES FOOD + OXYGEN AND REMOVES WASTE

97. What do the lungs lack if the baby is born prematurely?

SURFACTANT

98. What part of the brain is unable to control temperature in a premature baby?

HYPOTHALAMUS

99. Increased estrogen at mid-cycle stimulates the secretion of what hormone?

LH

100. What inhibits FSH and LH secretions?

INCREASED PROGESTERONE; SOME ESTROGEN