CH. 12 - CARDIOVASCULAR SYSTEM

PRACTICE QUESTIONS

5a. ARM → *subclavian vein* → *anterior vena cava* →R.S. OF HEART →LUNGS →L.S. OF HEART → *aorta* → *renal artery* → KIDNEY

37. B
38. C
39. B
40. D
23. Y – *the large cross sectional area is the give away here! That's how you know Y are capillaries*

6. *At point X (the arterial end of the capillary bed) blood is rich in oxygen and low in carbon dioxide. As it enters the capillaries oxygen diffuses out of the blood and into the tissues. Carbon dioxide is abundant in the tissues, as it is a product of cellular respiration, and it diffuses out of the tissue cell and into the blood. At point Y the blood will have less oxygen and more carbon dioxide. Nutrients, like amino acids, glucose and fatty acids will move through the wall of the capillaries via facilitated diffusion into the tissues and hence there will be fewer nutrients in the blood at point Y.*

36. A
37. D
25. B – *Plasma proteins keep the blood hypertonic to the tissue fluid*
26. W – *the right atrioventricular valve (tricuspid valve)*
27. A
24. B
31. A
32. C
33. D
34. D
35. B
36. D
41. D
42. A
43. C
44. B
30. D – *if bp drops, less water is pushed into tissues at arterial end… this means blood remains "dilute" and hence materials will diffuse more quickly from tissues into the blood (increased concentration gradient, increased rate of diffusion!)*

4. *A damaged AV valve on the left side of the heart will mean that blood will flow back from the left ventricle into the left atrium. This will ultimately lead to an increase in blood pressure at the venous end of the pulmonary capillaries which will push fluid into the lung tissues causing edema.*

5. *Arteries are muscular – they can constrict or relax to affect blood pressure; Arteries are elastic – they can expand and recoil with blood flow*

6. *W – Right Atrium – receives blood from the superior and inferior vena cava; contains SA node which sends an excitatory impulse that regulates heart rate.*

   X – Aorta – receives blood from the left ventricle and directs blood into systemic system; branches into many other major arteries to deliver blood to the rest of the body.

   Y – Pulmonary Semi-lunar Valve – closes to prevent back flow of blood from pulmonary trunk into the right ventricle

   Z – Chordae Tendinae – fibrous tissue that prevents the atrioventricular valves from inverting when they close.