**Assignment 8: Module 8 Homework**

**Venkat Bhushan**

2. Incorrect. The pressure in the inferior vena cava is smaller than that of the renal artery. Besides, pressure from the venous side is generally lesser than the arterial side.
3. Incorrect. The cross-section area of the collective arterioles is greater than that of the large arteries.
4. Correct
5. Incorrect. The pressure in large arteries is bigger than that of large veins. And this helps in pumping blood throughout the body.
6. The length and diameter of a blood vessel is crucial aspect influencing blood flow. When the diameter is narrowed, the heart is forced to strain to pump blood. So, the pressure is another aspect. The difference in pressure across vessels from inlet to outlet influences the flow of blood. Importantly, the diameter is a crucial factor and is under physiological control. Reducing the diameter influences blood pressure. Blood viscosity is also another aspect that influences blood flow. Blood becoming slurry than normal can influence how efficiently it can be pumped throughout the body. Sudden changes in cross-sectional, vascular plaques and even turbulent flow are factors to influence the flow of blood. The normalcy of blood and blood vessels is crucial for effective flow.
7. The major difference between turbulent flow and laminar flow abnormality of directional flow. Where, in laminar flow, the blood will flow parallel to the direction flow and slowly. On the other hand, in turbulent flow, the blood flows in a direction not parallel to the normal direction flow- it flows in all directions. Turbulent flow is likely to occur in the aorta or vena cava. The reason behind this is that high velocities are likely to occur in the two blood vessels while they are pumping huge volumes of blood. And still, the velocity in the aorta is greater than that in the vena cava because the diameter of the vena cava is bigger. Laminar flow is likely to occur in capillaries. This is with consideration that the blood flows slowly in capillaries and the viscosity is still high.
8. Capillaries. Connective tissues are good for creating a network and connection between organs. Capillaries are required to transport nutrients and gases to various organs in the body. Therefore, the connective tissue is appropriate for ensuring that capillaries have thin walls for the effective interchange of gas and nutrients between the interstitial fluid and blood in the capillary.