

## **ASSIGNMENT FOR VIVA**

**DPT sec b 2<sup>nd</sup> semester**

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**Q1. (i) Write a note on cardiovascular system?**

**ANS: An Introduction to the Cardiovascular System:**

The cardiovascular system can be thought of as the transport system of the body. This system has three main components: the heart, the blood vessel and the blood itself. The heart is the system's pump and the blood vessels are like the delivery routes. Blood can be thought of as a fluid which contains the oxygen and nutrients the body needs and carries the wastes which need to be removed. The following information describes the structure and function of the heart and the cardiovascular system as a whole.

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**Structure of the Heart:**

The heart is a muscle about the size of a fist, and is roughly cone-shaped. It is about 12cm long, 9cm across the broadest point and about 6cm thick. The pericardium is a fibrous

covering which wraps around the whole heart. It holds the heart in place but allows it to move as it beats. The wall of the heart itself is made up of a special type of muscle called cardiac muscle.

### **Chambers of the Heart:**

The heart has two sides, the right side and the left side. The heart has four chambers. The left and right side each have two chambers, a top chamber and a bottom chamber. The two top chambers are known as the left and right atria (singular: atrium). The atria receive blood from different sources. The left atrium receives blood from the lungs and the right atrium receives blood from the rest of the body. The bottom two chambers are known as the left and right ventricles. The ventricles pump blood out to different parts of the body. The right ventricle pumps blood to the lungs while the left ventricle pumps out blood to the rest of the body. The ventricles have much thicker walls than the atria which allows them to perform more work by pumping out blood to the whole body.

### **Blood Vessels:**

Blood Vessels are tubes which carry blood. Veins are blood vessels which carry blood from the body back to the heart. Arteries are blood vessels which carry blood from the heart to the body. There are also microscopic blood vessels which connect arteries and veins together called capillaries. There are a few main blood vessels which connect to different chambers of the heart. The aorta is the largest artery in our body. The left ventricle pumps blood into the aorta which then carries it to the rest of the body through smaller arteries. The pulmonary trunk is the large artery which the right ventricle pumps into. It splits into pulmonary arteries which take the blood to the lungs. The pulmonary veins take blood from the lungs to the left atrium. All the other veins in our body drain into the inferior vena cava

(IVC) or the superior vena cava (SVC). These two large veins then take the blood from the rest of the body into the right atrium.

### **Valves:**

Valves are fibrous flaps of tissue found between the heart chambers and in the blood vessels. They are rather like gates which prevent blood from flowing in the wrong direction. They are found in a number of places. Valves between the atria and ventricles are known as the right and left atrioventricular valves, otherwise known as the tricuspid and mitral valves respectively. Valves between the ventricles and the great arteries are known as the semilunar valves. The aortic valve is found at the base of the aorta, while the pulmonary valve is found the base of the pulmonary trunk. There are also many valves found in veins throughout the body. However, there are no valves found in any of the other arteries besides the aorta and pulmonary trunk.

Carotid arteries, which take blood to the neck and head

Coronary arteries, which provide blood supply to the heart itself

Hepatic artery, which takes blood to the liver with branches going to the stomach

Mesenteric artery, which takes blood to the intestines

Renal arteries, which takes blood to the kidneys

Femoral arteries, which take blood to the legs

The body is then able to use the oxygen in the blood to carry out its normal functions. This blood will again return back to the heart through the veins and the cycle continues.

**(ii) What are the symptoms of high and low blood pressure?**

**ANS: Symptoms of high blood pressure:**

Severe headaches.

Nosebleed.  
Fatigue or confusion.  
Vision problems.  
Chest pain.  
Difficulty breathing.  
Irregular heartbeat.  
Blood in the urine.

### **Symptoms of low blood pressure**

Dizziness or lightheadedness.  
Nausea.  
Fainting (syncope)  
Dehydration and unusual thirst.  
dehydration can sometimes cause blood pressure to drop.  
However, dehydration does not always cause low blood pressure. ...  
Lack of concentration.  
Blurred vision.  
Cold, clammy, pale skin.

**(iii) What is the treatment of high and low blood pressure?**

### **ANS: Treatment of high blood pressure:**

Lose extra pounds and watch your waistline. ...  
Exercise regularly. ...  
Eat a healthy diet. ...  
Reduce sodium in your diet. ...  
Limit the amount of alcohol you drink. ...  
Quit smoking. ...  
Cut back on caffeine. ...  
Reduce your stress.

### **Treatment of low blood pressure:**

Use more salt. Experts usually recommend limiting salt in your diet because sodium can raise blood pressure, sometimes dramatically. ...

Drink more water. Fluids increase blood volume and help prevent dehydration, both of which are important in treating hypotension.

Wear compression stockings. ...

Medications.