

ASSIGNMENT FOR VIVA.

.Radiology sec b 2nd semester

Supervisor: Kousar Shah Jehan.

Student Name: **Abdul Mobeen** ID: **16850**

.....

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

Ans:

Human cardiovascular system,

- Organ system that conveys blood through vessels to and from all parts of the body.
- Carrying nutrients and oxygen to tissues and removing carbon dioxide and other wastes.
- It is a closed tubular system in which the blood is propelled by a muscular heart.
- Two circuits, the pulmonary and the systemic,
 - consist of arterial,
 - capillary,
 - venous components.
- The primary function of the heart is to serve as a muscular pump propelling blood into and through vessels to and from all parts of the body.
- The arteries, which receive this blood at high pressure and velocity and conduct it throughout the body, have thick walls that are composed of elastic fibrous tissue and muscle cells.
- The arterial tree—the branching system of arteries—terminates in short, narrow, muscular vessels called arterioles, from which blood enters simple endothelial tubes (i.e., tubes formed of endothelial, or lining, cells) known as capillaries.

- *These thin, microscopic capillaries are permeable to vital cellular nutrients and waste products that they receive and distribute.*
 - *From the capillaries, the blood, now depleted of oxygen and burdened with waste products, moving more slowly and under low pressure, enters small vessels called venules that converge to form veins, ultimately guiding the blood on its way back to the heart.*
-

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

Ans:

High blood pressure

- *High blood pressure is a common condition in which the long-term force of the blood against your artery walls is high enough that it may eventually cause health problems, such as heart disease.*
- *Blood pressure is determined both by the amount of blood your heart pumps and the amount of resistance to blood flow in your arteries. The more blood your heart pumps and the narrower your arteries, the higher your blood pressure.*

Symptoms:

- *Most people with high blood pressure have no signs or symptoms,*
- *Even if blood pressure readings reach dangerously high levels.*
- *A few people with high blood pressure may have:*
 - *headaches,*
 - *shortness of breath*
 - *nosebleeds*
- *But these signs and symptoms aren't specific and usually don't occur until high blood pressure has reached a severe or life-threatening stage.*

Low blood pressure:

- *Low blood pressure might seem desirable, and for some people,*
- *it causes no problems.*
- *However, for many people, abnormally low blood pressure (hypotension) can cause dizziness and fainting. In severe cases, low blood pressure can be life-threatening.*
- *A blood pressure reading lower than 90 millimeters of mercury (mm Hg) for the top number (systolic) or 60 mm Hg for the bottom number (diastolic) is generally considered low blood pressure.*

Symptoms

For some people, low blood pressure signals an underlying problem, especially when it drops suddenly or is accompanied by signs and symptoms such as:

- *Dizziness or light-headedness*
- *Fainting*
- *Blurred or fading vision*
- *Nausea*
- *Fatigue*
- *Lack of concentration*

.....
(iii) what is the treatment of high and low blood pressure?

Ans:

Low Blood Pressure

Treatment

Low blood pressure causes only mild symptoms rarely requires treatment.

If you have symptoms, treatment depends on the cause. For instance, when medication causes low blood pressure, treatment usually involves changing or stopping the medication or lowering the dose.

If it's not clear what's causing low blood pressure or no treatment exists, the goal is to raise your blood pressure and reduce signs and symptoms. Depending on your age, health and the type of low blood pressure you have, you can do this in several ways:

- *Use more salt.*
- *Drink more water.*
- *Wear compression stockings.*
- *Medications.* Several medications can be used to treat low blood pressure that occurs when you stand up (orthostatic hypotension). For example, the drug fludrocortisone, which boosts your blood volume, is often used to treat this form of low blood pressure.

Doctors often use the drug midodrine (Orvaten) to raise standing blood pressure levels in people with chronic orthostatic hypotension. It works by restricting the ability of your blood vessels to expand, which raises blood pressure.

High Blood Pressure

Treatment

Changing your lifestyle can go a long way toward controlling high blood pressure. Your doctor may recommend you make lifestyle changes including:

- *Eating a heart-healthy diet with less salt*
- *Getting regular physical activity*
- *Maintaining a healthy weight or losing weight if you're overweight or obese*
- *Limiting the amount of alcohol you drink*

But sometimes lifestyle changes aren't enough. In addition to diet and exercise, your doctor may recommend medication to lower your blood pressure.

Your blood pressure treatment goal depends on how healthy you are.

Your blood pressure treatment goal should be less than 130/80 mm Hg if:

- *You're a healthy adult age 65 or older*

- *You're a healthy adult younger than age 65 with a 10 percent or higher risk of developing cardiovascular disease in the next 10 years*
- *You have chronic kidney disease, diabetes or coronary artery disease*

Medications to treat high blood pressure

- ***Thiazide diuretics.***
- ***Angiotensin-converting enzyme (ACE) inhibitors.***
- ***Angiotensin II receptor blockers (ARBs).***
- ***Calcium channel blockers.*** *These medications — including amlodipine (Norvasc), diltiazem (Cardizem, Tiazac, others) and others — help relax the muscles of your blood vessels.*

Additional medications sometimes used to treat high blood pressure

If you're having trouble reaching your blood pressure goal with combinations of the above medications, your doctor may prescribe:

- ***Alpha blockers. Alpha-beta blockers.***
 - ***Beta blockers.***
 - ***Aldosterone antagonists.***
 - ***Renin inhibitors.***
 - ***Vasodilators.***
 - ***Central-acting agents.***
-