

Intro...

(1)

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PAPER : Theory

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SUMMAR EXAME

QNO: 01

Ans:

ABO Blood Group System.

- ABO blood group system is the most common and important blood group system in human blood.
- ABO blood type are also present in some other animals. For example: rodent and apes such as chimpanzees, bonobos and gorillas.
- Determination of ABO blood group depends upon the immunological reaction between antigen and antibodies.
- Antigen are also called agglutinogens because of their capacity to cause agglutinations of RBCs.

⇒ History:

→ Karl Landsteiner discovered the ABO Blood Groups System in 1901.

→ Karl Landsteiner awarded the Noble prize in 1930 in physiology

⇒ LAND STEINER RULE

→ If an antigen is present on a patient red blood cells (RBCs) the corresponding antibodies will not be present in patient plasma under normal conditions.

⇒ 'ABO' Basics

- Based on presence or absence of antigens A, B
- Blood is divided into four groups.
- Blood having Antigen "A" belong to "A" Group.
This blood have B antibodies in their Serum.
- Blood have antigen "B" has B groups.
- Blood have Both antigen "A" & "B" has belong to "AB" Groups.
- If Both antigens are absent are called "O" and Both A and B antibodies are present in the Serum.

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Principle of Principle of Blood Grouping.

- Blood Grouping is done on the basis of agglutination
- agglutination mean the collection of separate particles like RBCs into clumps or masses.

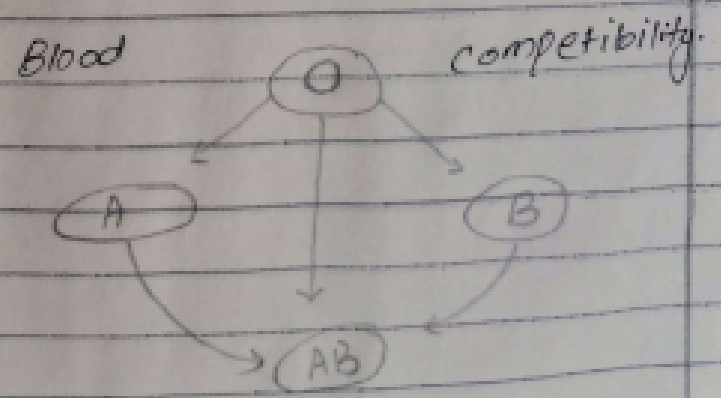
⇒ Importance of ABO Groups in blood Transfusion.

- during Blood transfusion only compatible blood must be used.
- The one who give blood is called "donor"
- and who receive blood is called "recipient".

→ While receiving blood antigens of donor and antibodies of recipient can be considered.

→ The RBCs of "O" Group have no antigen. They give blood to any people called "Universal donors"

→ And "AB" has no antibody so this is called "Universal recipient"



7.
① NO: 02

ANS:

AB+ Blood

AB+ blood type is known
as "Universal recipient"

This is why AB positive
blood patient can
receive a red blood
cell from all

The Types.

And All the types of
blood groups can
given blood.

QNO: 03

ANS

CVS SYSTEM

- In order to pump blood to the body, the heart is connected to vascular system of the body.
- It is closed system
- It is designed to transport oxygen and nutrient to the cell of the body and remove carbon dioxide and metabolic waste products from the body.

= Components of CVS

= Heart:

- It is a pump composed of 4 chambers (atria & ventricles)

→ The heart provides the driving force for the cardiovascular system

= Blood vessels.

- The blood vessels of the system of ~~total~~.

- Arteries and Arterioles which carry bloods from the heart to all body's.

- Venules and veins which carry the blood back from the tissue to heart.

→ Blood capillaries which form the network of fine vessels connecting the arterial and venules.

⇒ Construction of CVS
→ The cardiovascular System is made up of two Circulatory System acting together.

→ The right side of the heart pump blood to the lungs through the pulmonary artery.

→ The left side of the heart pumps blood to the rest of body, through aorta artery and systemic capillary.

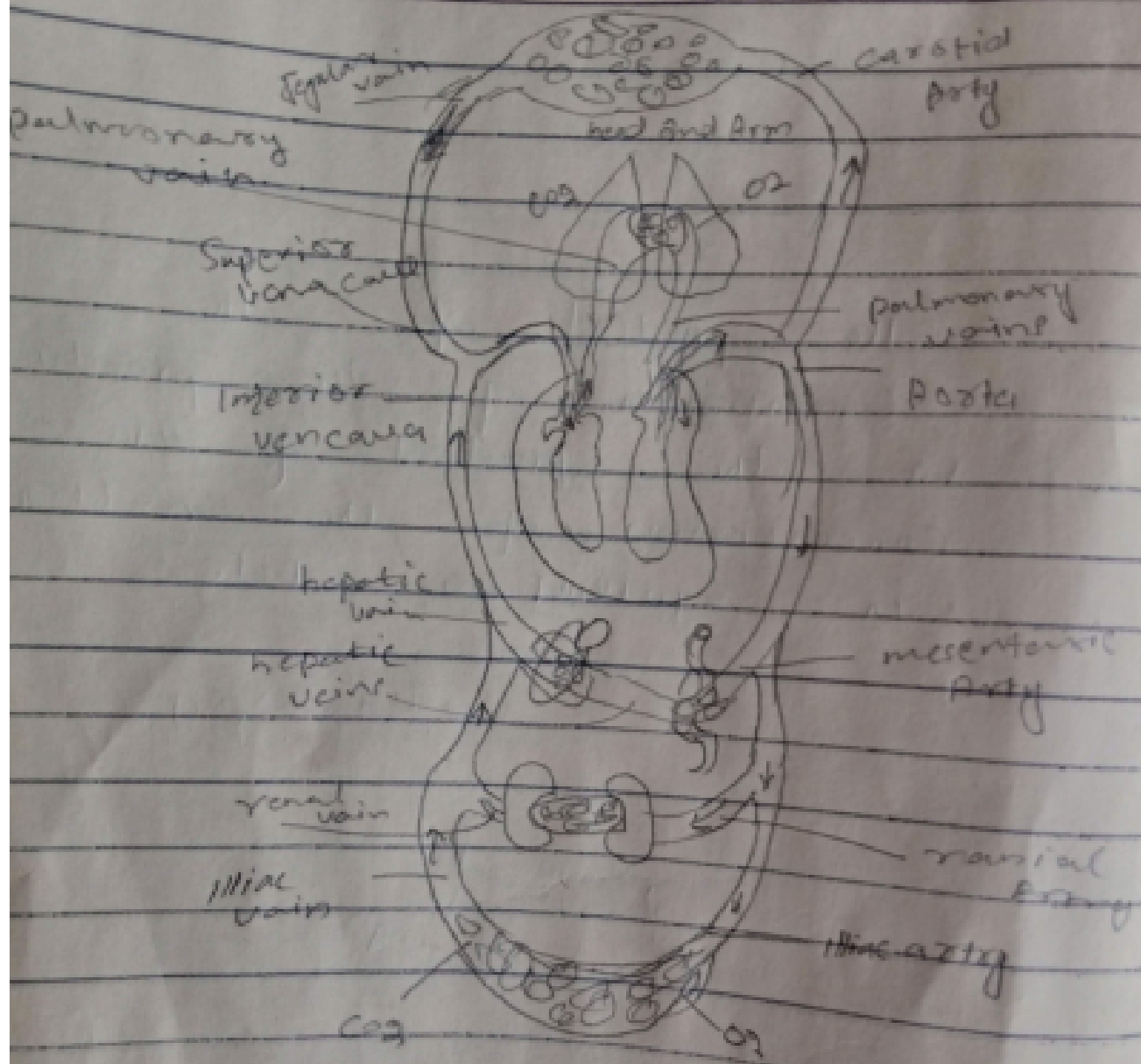
In Cardiovascular System
blood passes through
two circulation.

The Systemic Circulation

→ It starts in the left ventricle
→ the Aorta → systemic
artery — capillary — veins —
pul. Superior and inferior
vena cava — right atrium.

The pulmonary Circulation.

→ Start from right ventricle —
pulmonary trunk — arteries —
capillaries — veins —
left atrium.



QNO: 04

ANS A

Active Immunity Passive Immunity.

- | | |
|---|---|
| → active refers to immunity which result from the production of antibodies by person own immun system and response to a direct contact of antigen | → passive is refer to a short time immunity. which result from the introduction of out sid antibodies |
| → Mediated by the antibody produce by the person own cell | Mediated by the antibodies produced by outside. |
| → The pathogen has direct contact with the body | The pathogen has don't direct contact. |

→ Does not generate a rapid response

Generates a rapid response

→ May last for a long time

May not last for a long time

→ Generates immunological memory

Does not generate

→ Side effects are very low

Side the body may react to anasthisia antisera

→ Does not work in immunodeficient hosts

work in immunodeficient hosts.



Ans

QNO: 05 LYMPHATIC SYSTEM

→ collect and return some tissue fluid to the blood stream defend the body against infection and tissue damage.

→ Lymphatic organs
Primary: are red bone marrow and thymus gland.

Stem cell in red bone marrow give rise to mature B cell and T to pre-T cell.

Secondary: organ include lymph nodes, spleen, and lymphatic tissue.

Lymph Fluid:

Lymph fluid is clear interstitial fluid that is found between the cells of human body.

This fluid enters to the body by method of filtration through the pores.

Lymph Composition.

- Lymph contain cells like white blood cells
- It has no RBC and larger proteins.
- Cholesterol are rich and triglycerid, lipids enter and lactose

There are certain
tubular vessels that
are responsible for
transporting lymph
back to blood
stream.

Function:

- Drainage Intestinal fluid.
- Lymphatic vessels transport lipids absorbed the GIT to blood.
- System Response two ways:
 - Lymphocyte T cell destroy the invader cell causing them to rupture. cytotoxic substances.
- B cell differentiate in plasma cell which secret antibody that combine with specific foreign substance.