

Rare Donor Registry Integrated with e-Rakt Kosh

Source: TH

Why in News?

The **Union Health Ministry** is integrating the **Rare Donor Registry of India (RDRI)** with <u>e-Rakt Kosh</u> to enable real-time access to **rare blood types** (such as **Bombay, Rh-null, P-Null**) and improve nationwide coordination among blood banks.

What is Rare Donor Registry of India (RDRI)?

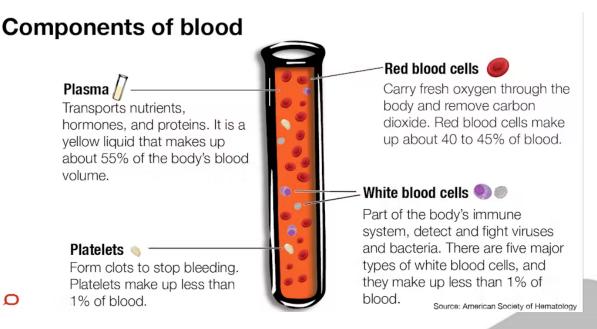
- About: The Rare Donor Registry of India (RDRI) is a national database of rare blood group donors.
 - It was developed by the Indian Council of Medical Research-National Institute of Immunohaematology (ICMR-NIIH) in collaboration with leading medical institutes.
- Purpose and Need: RDRI supports patients who require specially matched transfusions, particularly those suffering from thalassemia, sickle cell disease, and other rare conditions.
- Scope & Coverage: The registry includes over 4,000 screened donors, tested for more than 300 rare blood markers.
 - It focuses on blood groups that either lack high-frequency antigens or have uncommon antigen combinations.
- Significance for People with Rare Blood Types: Rare blood groups are difficult to match.
 Transfusing incompatible blood may cause alloimmunisation, where the patient develops antibodies against transfused blood, complicating future treatments.

What is e-Rakt Kosh?

- About: e-Rakt Kosh is a centralized digital blood bank management system developed by CDAC under the National Health Mission.
 - It provides real-time information on blood availability, donation camps, and blood banks across India.
 - The platform connects donors, hospitals, and blood banks, enabling efficient tracking and safe transfusions.

Blood

- About: Blood is a vital fluid that transports oxygen, nutrients, hormones, and waste throughout the body.
 - Produced in the **bone marrow**, blood also aids in **immunity**, **healing**, and **waste removal** via the liver and kidneys. An average adult has about **5 litres** of blood.
- Components: It consists of 45% cells (red blood cells, white blood cells, and platelets) and 55% plasma, a fluid that carries proteins, vitamins, and minerals.



Blood Types or Groups: There are 4 main blood groups/ types of blood: A, B, AB and O.

| | Туре А | Туре В | Type AB | Туре О |
|-------------------------|--|--|--|---|
| Antigen (on RBC) | Antigen A | Antigen B | Antigens A + B | Neither A or B |
| Antibody (in plasma) | Anti-B Antibody Y / / Y / / | Anti-A Antibody ペ ナ | Neither Antibody | Both Antibodies イ |
| Blood Donors | Cannot have B or AB blood Can have A or O blood | Cannot have A or AB blood Can have B or O blood | Can have any type of blood Is the universal recipient | Can only have O blood Is the universal donor |

What is Bombay Blood Group?

Click Here to Read: Bombay Blood Group

UPSC Civil Services Examination, Previous Year Question (PYO)

Q. A married couple adopted a male child. A few years later, twin boys were born to them. The blood group of the couple is AB positive and O negative. The blood group of the three sons is A positive, B positive and O positive. The blood group of the adopted son is(2011)

(a) O positive

- (b) A positive
- (c) B positive (d) Cannot be determined on the basis of the given data

Ans: (a)

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