

RRB JE | SSC JE 2023 | SSC Phase 11

एक नई शुरुआत

Science

Blood

(सीखें मजेदार तरीके से)



ZERO TO HERO SERIES



A
ENGINEERS

By DeepMani sir

WELCOME
TO Adda247

“A person who never
made a mistake never
tried anything new..”

APP FEATURES



Download Now
Adda247 APP



Premium Study Material



Current Affairs



Job Alerts



Daily Quizzes



Subject-wise Quizzes



Magazines



Power Capsule



Notes & Articles



Videos

Engineers Adda

SUPERSTARS



SSC JE 2022 Pre

QUALIFIED Result

 Pratik Kumar Singh 220110143	 Swati Singh 3010306710	 Babbar Singh 2411100734	 Pratik Kumar 3003101418	 Ravi Singh 3200100456	 Pooja Singh 3010104232	 Aditya Kumar 2003100534	 Saksham KJ 2201100788
 Ramesh Kumar 3001300723	 Raju Singh 2411101788	 Yashwanth Kumar 3001100550	 Anshu Kumar 5382100	 Anshu Kumar 8001100292	 N. Srinidhi 2201100336	 Rohan 3011100014	 Pradyumn Kumar Singh 3001102154
 Abhishek Kumar 3013102386	 Dhruv Kumar Singh 2400102046	 Anshu Kumar 30000500149	 Saksham Kumar 30000643004	 Aditya Kumar 8005000610	 Lata Kumar Singh 2201100734	 Divya Kumar 801301139	
 Anshu Kumar 3001102011	 Anshu Kumar 5000237922	 Raju Singh 2411101788	 Pooja 1801100007	 Gauri Kumar 4200300017	 S. Kumar Singh 1300708		

and
Many More

APP FEATURES



Premium Study Material



Current Affairs



Job Alerts



Daily Quizzes



Subject-wise Quizzes



Magazines



Power Capsule



Notes & Articles

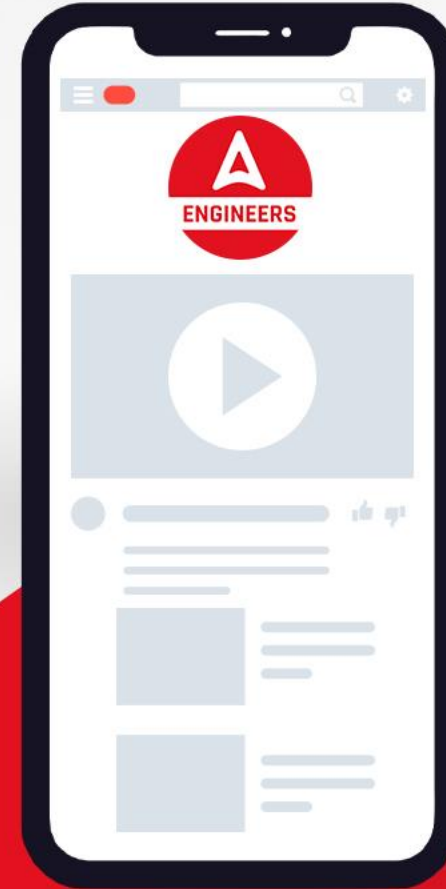


Videos



SUBSCRIBE NOW

Engineers Adda247
YouTube Channel



Which one of the following is the smallest endocrine gland in human body?

□

- A. Adrenal
- B. Thyroid
- C. Pituitary
- D. Pancreas

Pineal



S. Young Kumar 20 hours ago

Pituitary gland is situated in the depression of sphenoid bone in fore head, this is called sella tersica.

Weight- 0.6 gm approx

This is also known as master gland, controlled by Hypothalamus

👍 1 Reply

D Deepmani Bhardwaj 0 seconds ago

Absolutely correct 😊

Reply



Nisha Anya 20 hours ago

Ans=pineal gland

The endocrine glands are ductless thus they discharge their secretions directly into the blood like thyroid glands . Pituitary glands, etc

👍 1 Reply

D Deepmani Bhardwaj 0 seconds ago

Absolutely correct 😊 Nisha but acc to question just check what will be the ans?

Reply



Piyush Mechanical 20 hours ago

hw- smallest endocrine gland is pineal gland

👍 1 Reply

D Deepmani Bhardwaj 1 second ago

Absolutely correct 😊 Piyush but acc to question just check what will be the ans?

Reply



Dharmraj Kumar 20 hours ago

The smallest gland found in the body of a human being is the pineal gland. It is situated at the dorsal side of the forebrain and originates from the embryo's ectoderm. The weight of a pineal gland is 150 milligrams. The prime role of the pineal gland is to balance the rhythm of the body and secrete melatonin hormone. ❤️❤️❤️❤️❤️...

Read more

👍 1 Reply

D Deepmani Bhardwaj 0 seconds ago


Absolutely correct 😊 Dharmraj but acc to question just check what will be the ans?

Reply




Anuj Kanoujiya 20 hours ago



H.W ANS = C


 Kiran Kumari 20 hours ago
Smallest endocrine gland
Pituitary gland

Pineal


 1  Reply

 Deepmani Bhardwaj 1 second ago
Absolutely correct 😊


  Reply

 S. Young Kumar 20 hours ago
Which of the following is the smallest endocrine gland in human body Pituitary gland.


 1  Reply


 Deepmani Bhardwaj 1 second ago
Absolutely correct 😊


  Reply

 Shantanu Kumar 1 hour ago
Option -C


 1  Reply



 Deepmani Bhardwaj 0 seconds ago
Absolutely correct 😊


  Reply

 Ravi Raj 20 hours ago
Ccccc pr tala lagaeye 🗝️🗝️🗝️


 1  Reply

 Deepmani Bhardwaj 0 seconds ago
Absolutely correct 😊

  Reply

 Ravi Singh 20 hours ago
cccccccccccccccccccccccccccccccc

 1  Reply

 Deepmani Bhardwaj 1 second ago
Absolutely correct 😊

  Reply

Which one of the following is the smallest endocrine gland in human body?

□

A. Adrenal

B. Thyroid

C. Pituitary

D. Pancreas

HUMAN CIRCULATORY SYSTEM

मानव परिसंचरण तंत्र



**What if your blood (रक्त)
doesn't clot (जमना)?**

Heparin

Vit K

BLOOD AND ITS COMPONENTS

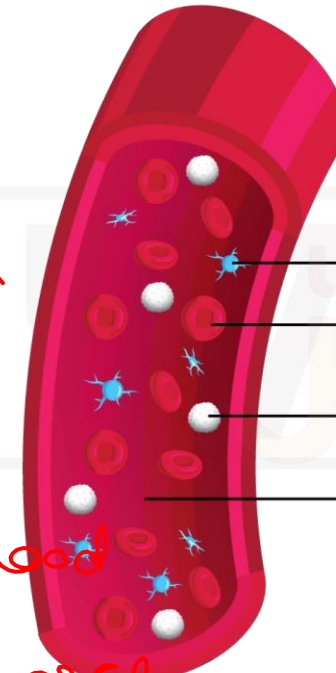
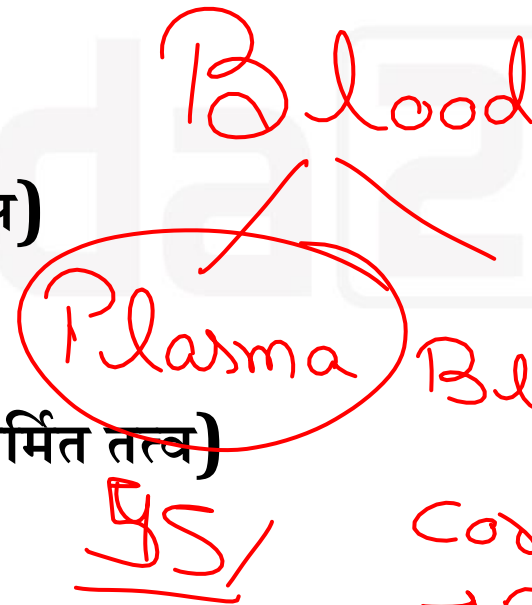
रक्त और इसके संघटक

BLOOD AND ITS COMPONENTS

- **Blood (रक्त): Special connective tissue** (विशेष संयोजी ऊतक)

- **Consists of:**

- **Fluid matrix** (द्रव मैट्रिक्स)
- **Plasma** (प्लाज्मा)
- **Formed elements** (निर्मित तत्व)



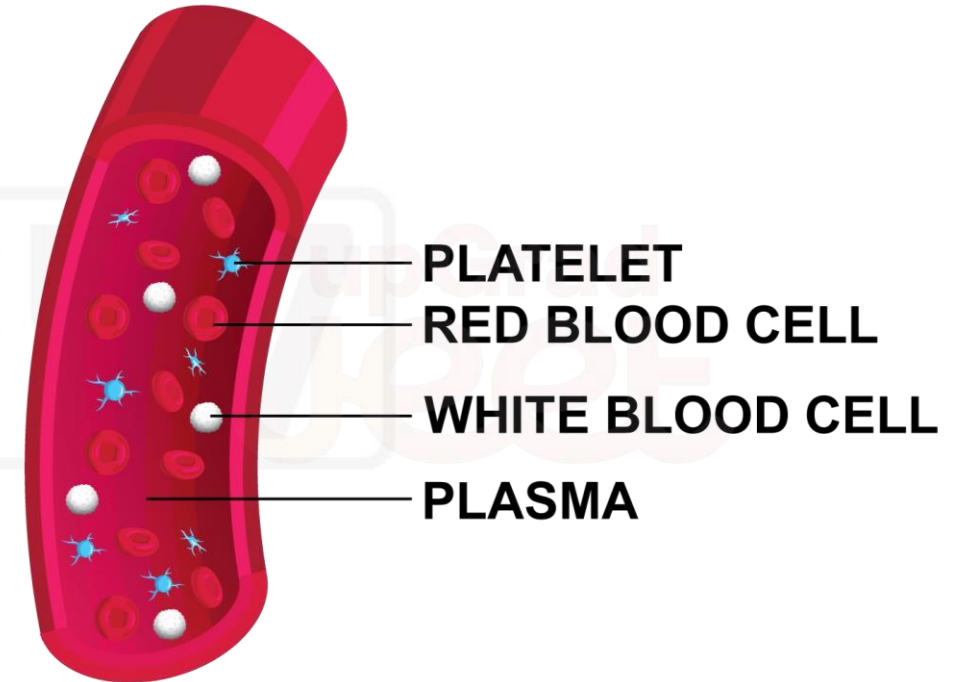
- PLATELET
- RED BLOOD CELL
- WHITE BLOOD CELL
- PLASMA

Corpuscles
 → RBC
 → WBC → Platelets

BLOOD AND ITS COMPONENTS

Plasma:

- Viscous fluid (चिपचिपा द्रव) constituting nearly 55 per cent of the blood
- चिपचिपा द्रव रक्त का लगभग 55 प्रतिशत बनता है
- 90-92 percent water
- 6-8 percent proteins
- Major proteins: Fibrinogen, globulins and albumins



BLOOD AND ITS COMPONENTS

Red blood cells (लाल रक्त कोशिकाएं)

(RBC) or Erythrocytes:

- **Most abundant** (सबसे प्रचुर मात्रा में) of all the cells in blood.
- **Contain hemoglobin.**

→ Red Bone Marrow
→ Liver

→ O_2 ✓
→ 120 days
→ Spleen (कमिटी)

Haemocytometer ^{cell} _{sh}



BLOOD AND ITS COMPONENTS

AIDS

- Erythrocytes, ~~leukocytes~~ and platelets are collectively called formed elements.
- एरिथ्रोसाइट्स, ल्यूकोसाइट्स और प्लेटलेट्स। सामूहिक रूप से गठित तत्व कहलाते हैं।
- Constitute nearly 45 percent of the blood.

Police man



रक्त का लगभग 45 प्रतिशत बनता है।

BLOOD AND ITS COMPONENTS

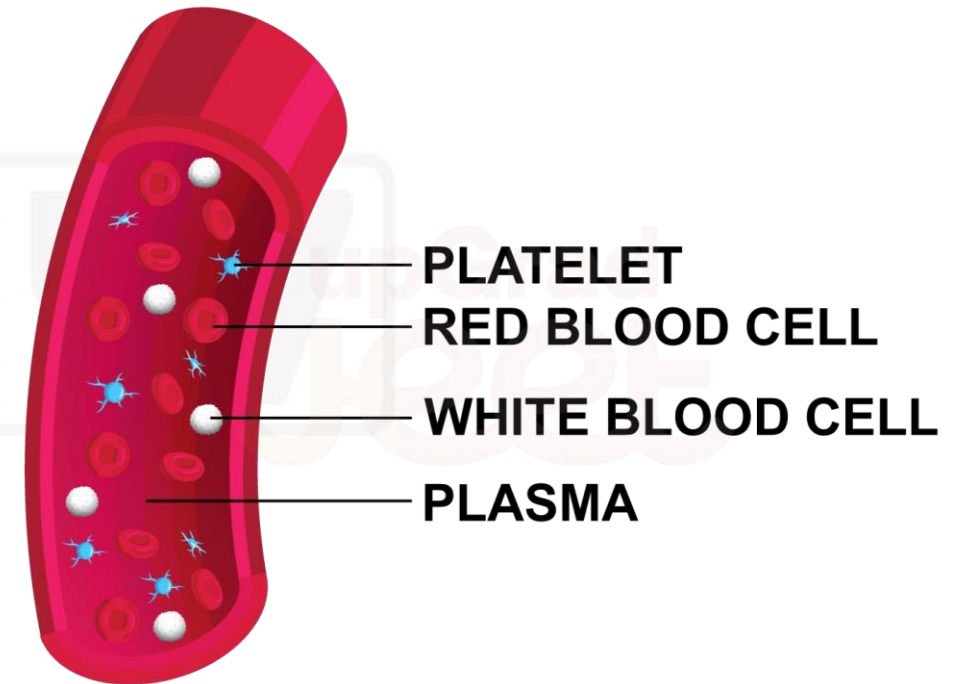
- **Red colour: Presence of hemoglobin**
- **Standard Hb is 14.5 mg of hemoglobin in every 100 ml of blood**
मानक एचबी प्रत्येक 100 मिलीलीटर रक्त में 14.5 मिलीग्राम हीमोग्लोबिन है
- **Anemic: Hb is lesser than this standard**
- **खून की कमी (रक्तअल्पता): Hb इस मानक से कम है**
- **Produced in the Bone Marrow**
- **अस्थि मज्जा में उत्पादित**



BLOOD AND ITS COMPONENTS

White blood cells (श्वेत रक्त कोशिकाएं) (WBC) or Leukocytes:

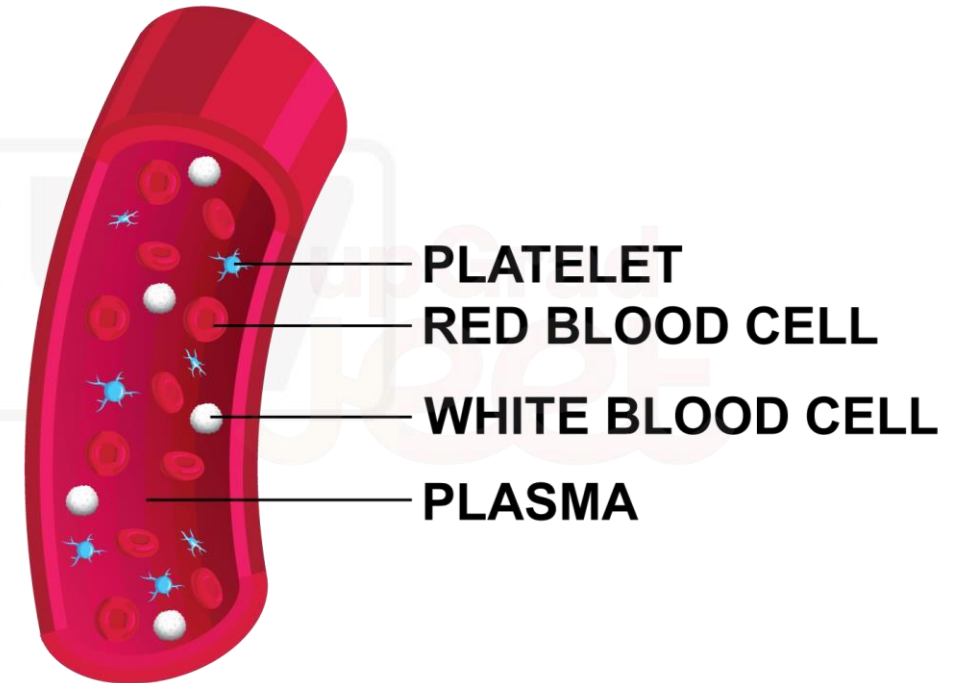
- **Colourless (रंगहीन):**
Lack of hemoglobin
रंगहीन (रंगहीन): हीमोग्लोबिन की कमी
- **Nucleated (नाभिकयुक्त):** Means their cells have a nucleus (नाभिक)
- **न्यूक्लेटेड (नाभियुक्त):** इसका मतलब है कि उनकी कोशिकाओं में एक नाभिक होता है (नाभिक)
- **Lifespan (जीवन-काल):** 2 – 5 days
- **जीवनकाल (जीवन काल):** 2 – 5 दिन



BLOOD AND ITS COMPONENTS

Platelets:

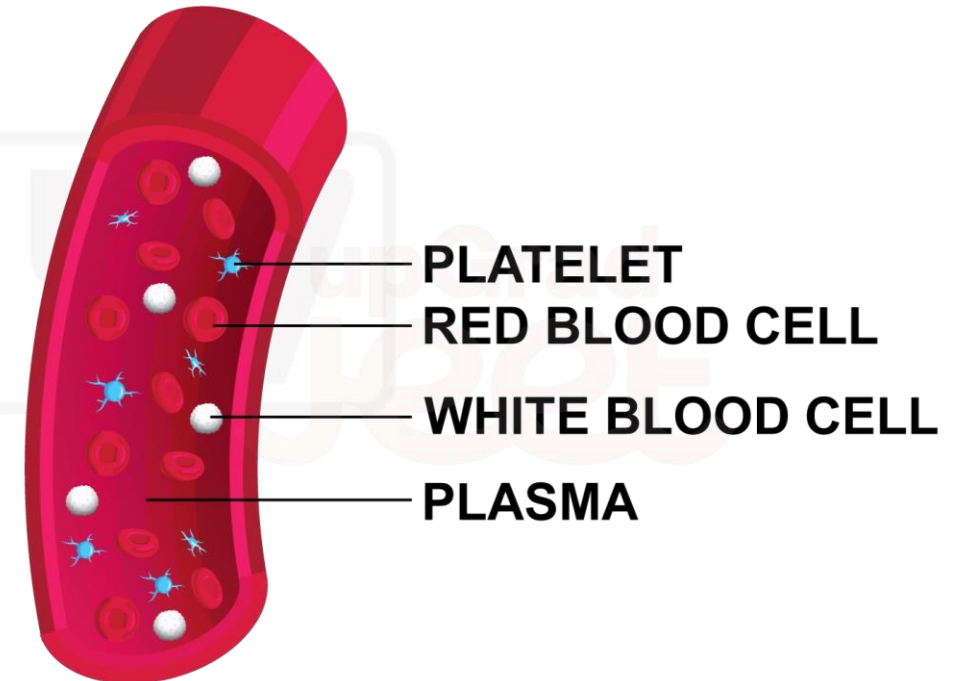
- Also known as thrombocytes
- थ्रोम्बोसाइट्स के रूप में भी जाना जाता है
- Irregular in shape
(आकार में अनियमित)
- Nucleus is absent (नाभिक अनुपस्थित)
- Produced in the bone marrow
(अस्थि मज्जा)



BLOOD AND ITS COMPONENTS

Platelets:

- **Lifespan (जीवन-काल):** 3-5 days
- **Function (कार्य):** React to bleeding from blood vessel injury (रक्त वाहिका की चोट) by clumping (एक जगह एकत्र होकर), thereby initiating a blood clot (रक्त का थक्का)



BLOOD AND ITS COMPONENTS

Lymph (लसीका):

- Fluid present in lymphatic system (लसीका तंत्र)
- Colourless fluid (रंगहीन द्रव) containing specialised lymphocytes responsible for the immune responses (प्रतिरक्षा अनुक्रिया) of the body
- रंगहीन द्रव जिसमें शरीर की प्रतिरक्षा प्रतिक्रिया के लिए जिम्मेदार विशेष लिम्फोसाइट्स होते हैं
- Lymph is also an important carrier for nutrients, hormones, etc.
- लसीका भी पोषक तत्वों, हार्मोन आदि के लिए एक महत्वपूर्ण वाहक है।

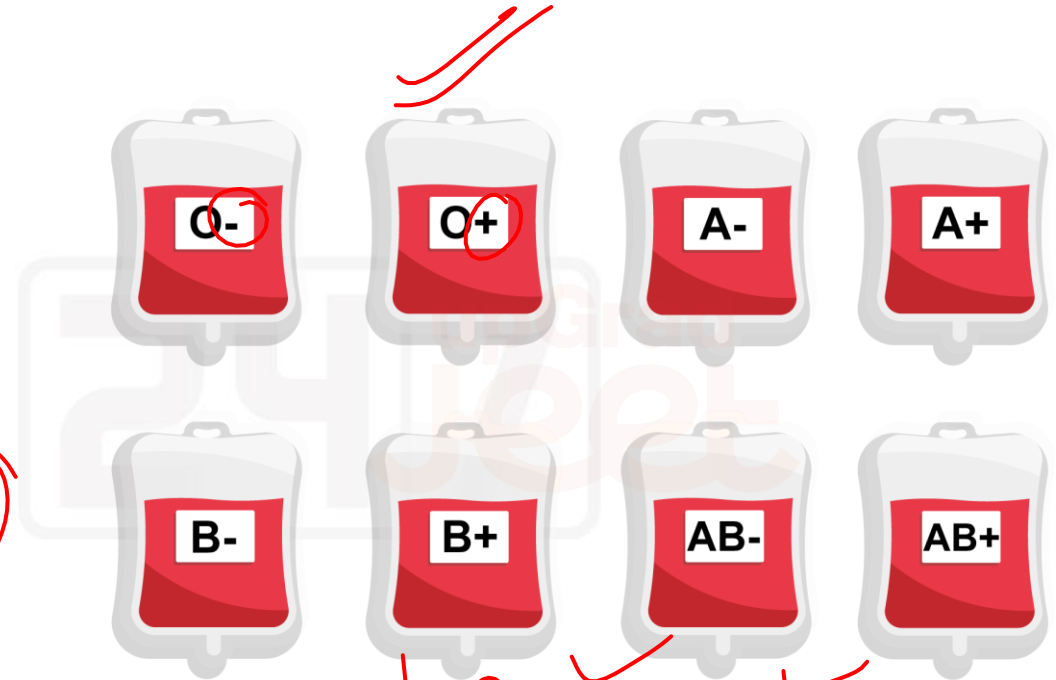
TRANSFUSION OF BLOOD

Blood transfusion technique was developed by Dr. James Blundell

RH Factor

Blood Group

→ Karl Landsteiner



A	+	-
B	+	-
AB	+	-
O	+	-

PRACTICE QUESTIONS

अभ्यास प्रश्न

Adda247

To which group of blood a universal recipient belongs?

सार्वभौम प्राप्तकर्ता रक्त के किस समूह से संबंधित है?

A. A group

B. B group

C. O group → Donor

D. AB group

To which group of blood a universal recipient belongs?

सार्वभौम प्राप्तकर्ता रक्त के किस समूह से संबंधित है?

- A. A group
- B. B group
- C. O group
- D. AB group

Which of the following statement is correct?

I. Arteries carry oxygen-rich blood from the heart to all parts of the body.

II. Veins are the vessels that carry carbon dioxide-rich blood from all parts of the body back to the heart.

निम्नलिखित में से कौन सा कथन सही है?

I. धमनियां ऑक्सीजन युक्त रक्त को हृदय से शरीर के सभी भागों में ले जाती हैं।

II. नसें वे वाहिकाएँ हैं जो शरीर के सभी हिस्सों से कार्बन डाइऑक्साइड युक्त रक्त को वापस हृदय तक ले जाती हैं।

A. ~~शुद्ध~~ Only I

B. Neither I nor II

C. Only II

D. Both I and II

Which of the following statement is correct?

- I. Arteries carry oxygen-rich blood from the heart to all parts of the body.**
- II. Veins are the vessels that carry carbon dioxide-rich blood from all parts of the body back to the heart.**

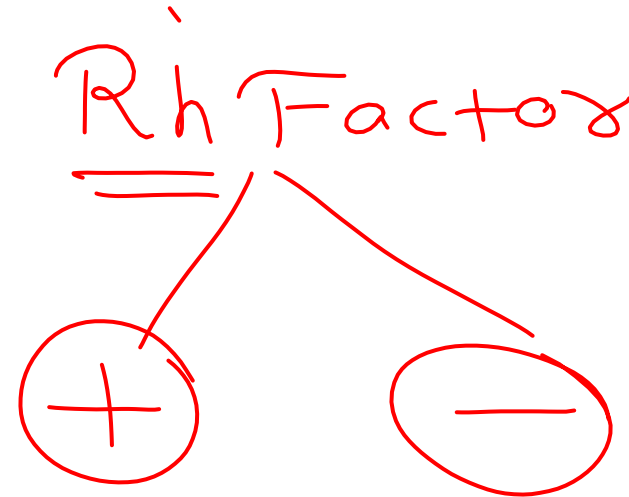
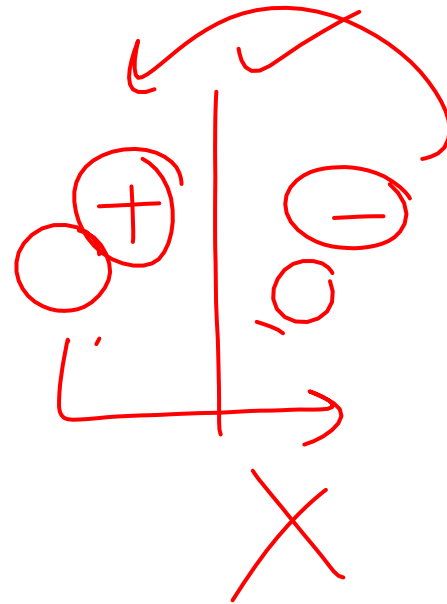
- A. Only I**
- B. Neither I nor II**
- C. Only II**
- D. Both I and II**

In transfusion, blood must be compatible not only in blood type but also in

- A. Rh factor
- B. the number of white cells
- C. the number of red cells
- D. Plasma

आधान में, रक्त न केवल रक्त प्रकार में बल्कि रक्त प्रकार में भी संगत होना चाहिए

- A. आरएच कारक
- B. सफेद कोशिकाओं की संख्या
- C. लाल कोशिकाओं की संख्या
- D. प्लाज्मा



In transfusion, blood must be compatible not only in blood type but also in

- A. Rh factor**
- B. the number of white cells**
- C. the number of red cells**
- D. Plasma**

_____ prevents ~~blood clotting~~ and blood loss.

A. Plasma

B. RBC

C. WBC

D. Thrombocytes ✓✓

and helps
in
clotting

_____ रक्त के थक्के जमने और खून की कमी को रोकता है।

A. प्लाज्मा

B. आरबीसी

C. डब्ल्यूबीसी

D. थ्रोम्बोसाइट्स

Platelets ✓✓

Leukocytes
Lymphocyte

_____ prevents blood clotting and blood loss.

- A. Plasma
- B. RBC
- C. WBC
- D. **Thrombocytes**

Which of the following are warm blooded animals?–

निम्नलिखित में से कौन सा गर्म खून वाले जानवर है?

- A. Whales
- B. ~~Whale~~ sharks
- C. Alytes
- D. Draco

Which of the following are warm blooded animals?–

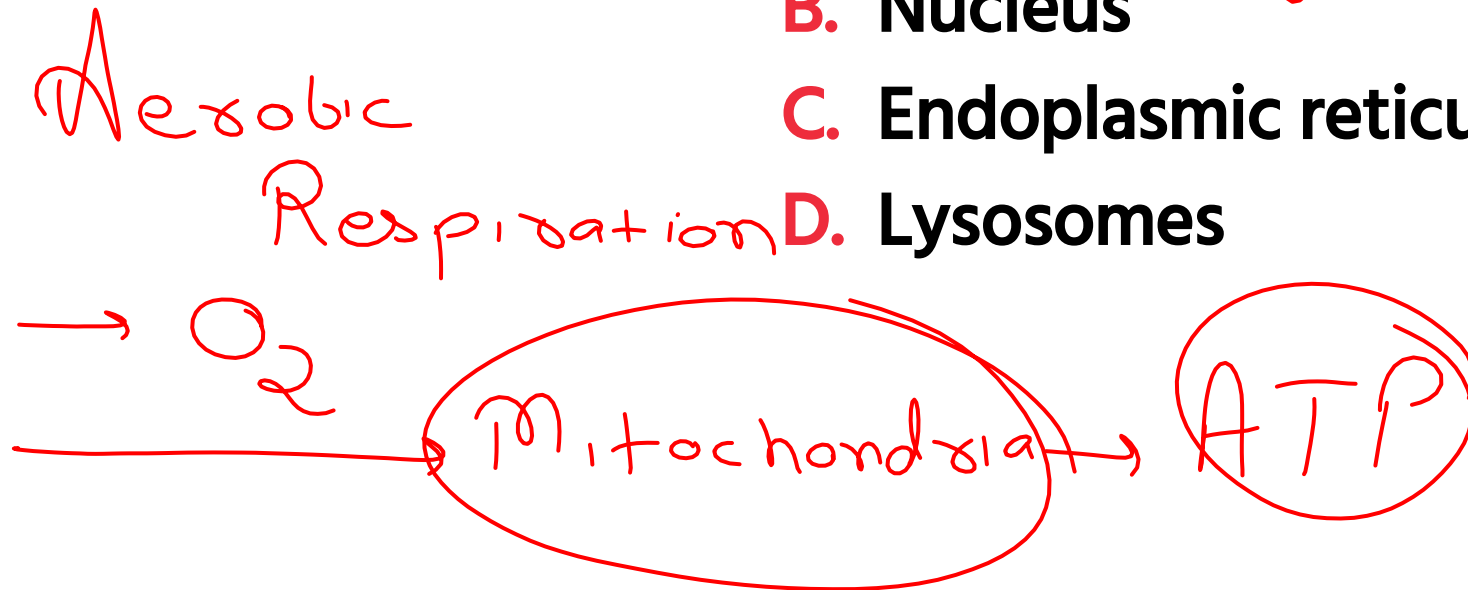
निम्नलिखित में से कौन सा गर्म खून वाले जानवर है?

- A. Whales**
- B. Whale sharks**
- C. Alytes**
- D. Draco**

RBCs do not perform aerobic respiration because these do not contain-

आरबीसी एरोबिक श्वसन नहीं करते हैं क्योंकि इनमें शामिल नहीं है-

- A. Mitochondria ✓
- B. Nucleus ✓
- C. Endoplasmic reticulum
- D. Lysosomes



RBCs do not perform aerobic respiration because these do not contain–

आरबीसी एरोबिक श्वसन नहीं करते हैं क्योंकि इनमें शामिल नहीं है-

- A. Mitochondria**
- B. Nucleus**
- C. Endoplasmic reticulum**
- D. Lysosomes**

The universal acceptor blood group is
सार्वत्रिक ग्राही रक्त समूह है

A. A

B. B

C. AB

D. O

Donor

The universal acceptor blood group is

A. A

B. B

C. AB

D. O

Which blood group has no antibody?

किस ब्लड ग्रुप में एंटीबॉडी नहीं होती है?

A. O

B. ~~AB~~

C. A

D. B

Group	Antigen	Antibody
A	A	b
B	B	a
<u>AB</u>	A, B	None
O	X	a, b

Handwritten notes:
- A red circle around 'A, B' in the Antigen column for blood group AB, with a line pointing to it from the text 'Antigen' written below.
- A red circle around the 'None' entry in the Antibody column for blood group AB, with a checkmark inside.

Which blood group has no antibody?

किस ब्लड ग्रुप में एंटीबॉडी नहीं होती है?

A. O

B. AB

C. A

D. B

Which of the following pairs has a double circulation pathway?

निम्नलिखित में से किस जोड़े में दोहरा परिसंचरण मार्ग है?

A. Amphibians and Mammals

B. Birds and Mammals

C. Reptiles and Mammals

D. Fishes and Birds

Human



Which of the following pairs has a double circulation pathway?

निम्नलिखित में से किस जोड़े में दोहरा परिसंचरण मार्ग है?

- A. Amphibians and Mammals
- B. Birds and Mammals**
- C. Reptiles and Mammals
- D. Fishes and Birds

Blood fails to clot, while flowing in the blood vessel because of the presence of-

रक्त वाहिका में बहते समय रक्त का थक्का जमने में विफल रहता है, इसकी उपस्थिति के कारण-

- A. Heparin**
- B. Prothrombin**
- C. Haemoglobin**
- D. Hirudin**

Aves

Blood fails to clot, while flowing in the blood vessel because of the presence of–

- A. Heparin**
- B. Prothrombin**
- C. Haemoglobin**
- D. Hirudin**

Haemoglobin contains the metal--
हीमोग्लोबिन में धातु होती है--

- A. Copper
- B. Molybdenum
- C. Iron ✓
- D. Magnesium

Red

Blood

Blood

Haemoglobin contains the metal--

A. Copper

B. Molybdenum

C. Iron

D. Magnesium

The life span of RBC of man is—
मनुष्य के RBC का जीवन काल होता है-

- ~~A. 120 days~~
- ~~B. 150 days~~
- ~~C. 180 days~~
- ~~D. 190 days~~

Death
→ Spleen

Formation
→ Bone Marrow

The life span of RBC of man is–

A. 120 days

B. 150 days

C. 180 days

D. 190 days

The pH of human blood is

मानव रक्त का pH होता है

A. 7.2

B. 7.8

C. 6.6

D. 7.4

Slightly
Basic

The pH of human blood is

A. 7.2

B. 7.8

C. 6.6

D. 7.4

In which vertebrate oxygenated and deoxygenated blood gets mixed?

किस कशेरुकी जंतु में ऑक्सीजनित और विऑक्सीजनित रक्त मिल जाता है?

A. Fish

~~B. Amphibian~~

C. Bird

D. Mammal

Frog

Hibernates

In which vertebrate oxygenated and deoxygenated blood gets mixed?

A. Fish

B. Amphibian

C. Bird

D. Mammal

The blood vessels that carry blood from the heart to the various parts of the body are called _____.

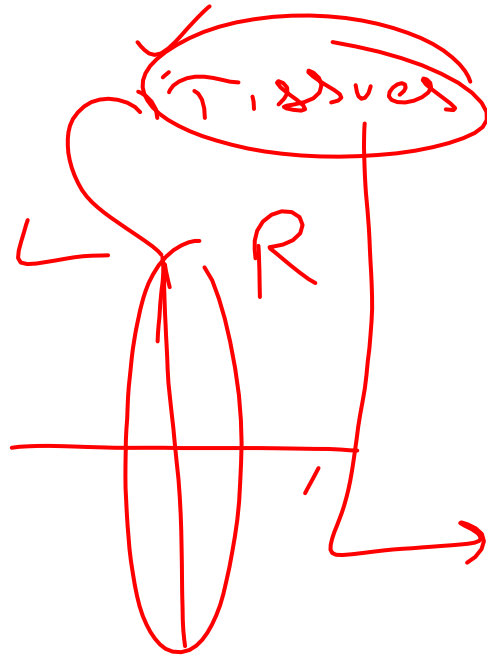
हृदय से शरीर के विभिन्न भागों में रक्त ले जाने वाली रक्त वाहिकाओं को _____ कहा जाता है।

- A. Arteries
- B. Veins
- C. Septum
- D. Capillaries

Pulse

The blood vessels that carry blood from the heart to the various parts of the body are called _____.

हृदय से शरीर के विभिन्न भागों में रक्त ले जाने वाली रक्त वाहिकाओं को _____ कहा जाता है।



A. Arteries

B. Veins

C. Septum

D. Capillaries

→ केशिका

The blood groups were discovered by

रक्त समूहों की खोज किसके द्वारा की गई थी

A. Altmann

^{Karl}
~~B.~~ Landsteiner

C. Losch

D. Ronald Ross

The blood groups were discovered by

- A. Altmann**
- B. Landsteiner**
- C. Losch**
- D. Ronald Ross**

173 The term 'RH factor' refers to
शब्द 'आरएच कारक' को संदर्भित करता है

- A. Rhesus factor
- B. Rheumatoid factor
- C. Renal factor
- D. Rhombic factor