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Q-1 - 34100530

Blood pressure in the pulmonary artery is

- (A) more than that in the carotid
- (B) more than that in the pulmonary vein
- (C) less than that in the vena cava
- (D) same as that in the aorta

CORRECT ANSWER: B

SOLUTION:

(b) Blood pressure in different blood vessels :

Artery > Arteriole > Capillary > Venule > Vein

(vena cava)

The pulmonary arteries have thicker smooth muscle and connective tissue than the pulmonary veins to accommodate the higher pressure and high rate of blood flow.

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Q-2 - 34100546

Which one of the following statements is correct regarding blood pressure ?

- (A) 100/55 mm Hg is considered an ideal blood pressure
- (B) 105/50 mm Hg makes one very active.
- (C) 190/110 mm Hg may harm vital organs like brain and kidney
- (D) 130/90 mm Hg is considered high and requires

treatment.

CORRECT ANSWER: C

SOLUTION:

(c) Blood pressure [190/110 mm Hg) of an individual is 140/90 [140 over 90] or higher, it shows hypertension.

High blood pressure [190/110 mm Hg) lead to heart diseases and also affects vital organs like brain and kidneys. Hypertension means the blood pressure that is higher than normal [120/80]. In this measurement, 120 mm Hg (millimeter of mercury pressure) is the normal systolic or pumping, pressure and 80 mm Hg is the normal diastolic or resting pressure.

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A person with unknown blood group under ABO system, has suffered much loss in an accident and needs immediate blood trasfusion. His one friend who has a valid certifacte of his own blood type. What would have been the type of blood group of the donor friend

(A) Type AB

(B) Type O

(C) Type A

(D) Type B

CORRECT ANSWER: B

SOLUTION:

(b) Blood type 'O' has no antigen but both types of antibodies 'a' and 'b' . The person with blood type 'O' is universal donor.

Q-4 - 34100580

What is correct for blood groups O?

- (A) No antigens but both a and b antibodies are present
- (B) A antigen and b antibody
- (C) Antigen and antibody both absent
- (D) A,B antigens and a,b antibodies

CORRECT ANSWER: A

SOLUTION:

(a) In blood of 'O' group, no antigens are present on red blood cells, but both anti-a and anti-b antibodies are present in plasma.

Blood group A has antigen 'A' and antibody 'b'

Blood group B has antigens 'B' and antibody 'a'.

Blood group AB has antigens 'A' and 'B' but no antibody
is plasma.

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Q-5 - 34100595

The thickening of walls of arteries is called

(A) arthritis

(B) arteriosclerosis

(C) aneurysm

(D) Both (a) and (c)

CORRECT ANSWER: B

SOLUTION:

(b) Atherosclerosis involves thickening of inner walls of arteris due to deposition of lipid (cholesterol) which prevents the dilation of arteries

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Q-6 - 34100635

Child death may occure in the marriage of

(A) Rh^{+} man and Rh^{+} woman

(B) Rh^{+} man and Rh^{-} women

(C) Rh^{-} man and Rh^{-} woman

(D) Rh^{-} man and Rh^{+} woman

CORRECT ANSWER: B

SOLUTION:

(b) Rhesus antibodies are formed in the plasma of Rh^- woman who have been pregnant with Rh^+ babies, if the foetal blood leaks across the placenta during the birth the mother body starts preparing antibodies against the Rh-antigen. Later Rh^+ foetus would be at risk and may suffer from haemolysis.

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Q-7 - 34100614

Pacemaker of heart is

- (A) AV node
 - (B) bundle of His
 - (C) SA node
 - (D) Purkinje fibres
-

CORRECT ANSWER: C

SOLUTION:

(c) SA node lies in the right wall of right auricle below the opening of superior vena cava. It is also called pacemaker as it is first to originate the cardiac impulses and determines the rate of heartbeat.

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Q-8 - 18704535

Fastest distribution of some injectible material / medicine and with no risk of any kind can be achieved by injecting it into the

(A) Muscles

(B) Arteries

(C) Veins

(D) Lymph vessels

CORRECT ANSWER: C

SOLUTION:

Intravenous injection is given for rapid distribution of drugs / substance. Intramuscular injection is given for producing local effect.

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Q-9 - 34100564

Antibodies in our body are complex

(A) lipoproteins

(B) steroids

(C) prostaglandins

(D) glycoproteins.

CORRECT ANSWER: D

SOLUTION:

(d) Antibodies are the protein (glycoproteins) called immunoglobulins. These are produced by B-lymphocytes in response to entry of a foreign substance or antigen into the body. Lipoproteins are the micellar complex of protein and lipids.

Steroids are a group of lipids derived from a saturated compound cyclopentano perhydrophenanthrene which has a nucleus of four rings.

Prostaglandin is a group of organic compounds derived from essential fatty acids and causing a range of physiological effects in animals.

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Person with blood group AB is considered as universal recipient because he has

- (A) Both A and B antigens on RBC but no antibodies in the plasma
- (B) Both A and B antibodies in the plasma
- (C) No antigen on RBC and no antibody in the plasma
- (D) Both A and B antigens in the plasma but no antibodies

CORRECT ANSWER: A

SOLUTION:

(a) Blood group AB is universal recipient because the person with AB blood group has both A and B antigens

on RBC but no antibodies in the plasma. Other blood group and their genotypes are given below.

Blood group	Antigen (s) Present on the RBC	Antibodies Present in Serum	Genotypes
A	Antigen-A	Anti-b	AA/AO
B	Antigen-B	Anti-a	BB/BO
O	None	Anti-a and b	O

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Q-11 - 34100548

Which one of the following proteins involved in the coagulation of blood?

- (A) Serum amylase
- (B) A globulin
- (C) Fibrinogen

(D) An albumin

CORRECT ANSWER: C

SOLUTION:

(c) Fibrinogen (factor 1] is a soluble plasma glycoprotein, synthesised by the liver. It is converted by thrombin into fibrin during blood coagulation. Fibrin is then cross - linked by factor XIII to form a clot.

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Q-12 - 34100583

What is true of leucocytes?

(A) These can squeeze out through (can cross) the capillary walls

(B) These are enucleate

(C) Sudden fall in their number indicates cancer

(D) These are produced in thymus

CORRECT ANSWER: A

SOLUTION:

(a) Most of the T and B-lymphocytes (types of leukocytes) continuously circulate between the blood and lymph. These leave the blood stream, squeezing out between specialised endothelial cuts found in certain small vessels and enter various tissues including all the lymph nodes.

After percolating through a tissue, these accumulate in small lymphatic vessels which connect to a series of lymph nodes, from where they ultimately enter the main lymphatic vessel (thoracic duct) which carries them back into the blood.

Q-13 - 34100602

Which of the following is an agranulocyte ?

- (A) Lymphocyte
- (B) Eosinophil
- (C) Basophil
- (D) Neutrophil

CORRECT ANSWER: A

SOLUTION:

(a) White Blood Corpuscles (WBCs) or leucocytes can be divided into two groups on the presence/absence of minute granules in the cytoplasm . Itvbrgt (a) Granulocytes which contain granules. E.eg. Neutrophils,

eosinophils and basophils.

(b) Agranulocytes which do not contain granules, lymphocytes, monocytes.

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Q-14 - 18704538

Which one of the following is incorrect for, atherosclerosis'

(A) Constriction of arterial lumen reduces the blood flow

(B) Loss of dilation ability of the arterial wall and its rupture

(C) Cholesterol deposition at the inner wall of the artery

(D) proliferation of the vascular muscles

CORRECT ANSWER: B

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Fall in blood pressure due to loss of blood is soon restored because the

- (A) Blood vessels dilate
 - (B) Blood cells decrease in number
 - (C) Heart beat is increased
 - (D) Heart beat is decreased
-

CORRECT ANSWER: C

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Blood pressure in the mammalian aorta is maximum during

- (A) Diastole of the right ventricle

(B) systole of the left ventricle

(C) diastole of the right atrium

(D) systole of the left atrium

CORRECT ANSWER: B

SOLUTION:

Upon systole of left ventricle blood is pushed in aorta, which creates systolic blood pressure which is 120 mm Hg.

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Q-17 - 18704556

Deficiency of which of the following causes obesity low plasma

Na^+ high K^+ and increased blood pressure

(A) Growth hormone

(B) Adrenaline

(C) Cortisol

(D) Thyroxine

CORRECT ANSWER: C

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Q-18 - 18704562

The diagram given here is the standard ECG of a normal person.

The P-wave represents the



(A) End of systole

(B) Contraction of both the atria

(C) Initiation of the ventricular contraction

(D) Beginning of the systole

CORRECT ANSWER: D

Q-19 - 34100532

Which one of the following blood vessels in mammals would normally carry the largest amount of urea

- (A) Dorsal Aorta
- (B) Hepatic Vein
- (C) Hepatic Portal Vein
- (D) Renal Vein

CORRECT ANSWER: B

SOLUTION:

(b) Urea is synthesised in liver. So, maximum amount of urea is present in hepatic vein and minimum in renal vein.

Q-20 - 34100547

Bundle of His is a part of which one of the following organs in humans

- (A) Heart
- (B) Kidney
- (C) Pancreas
- (D) Brain

CORRECT ANSWER: A

SOLUTION:

(a) The bundle of His, are specialised muscle fibres for electrical conduction present in the heart which were named after the Swis cardiologist Wilhelm His, Jr. , who

discovered them in 1893. These are also known as AV bundle which is a collection of heart muscle cells.

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Q-21 - 34100558

The most popularly known blood grouping is the ABO grouping. It is named ABO and not ABC, because, because "O" in it refers to having

(A) other antigens besides A and B on RBCs

(B) over dominance of this type on the genes for A and B types

(C) one antibody only- either anti-A or anti-B on the RBCs

(D) no antigens A and B on RBCs

CORRECT ANSWER: D

SOLUTION:

(d) Landsteiner divided human population into four groups based on the presence of antigens found in their RBCs. Each group represented a blood group . Thus, there are four types of blood group A,B,AB and O. Blood group 'O' does not contain any antigen on RBCs, hence can be given to any person, that's why this blood group is called universal donor.

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Q-22 - 34100566

In the AOB system of blood,group,if both antigens are present but no antibody,the blood group of the individual would be :

(A) B

(B) O

(C) AB

(D) A

CORRECT ANSWER: C

SOLUTION:

(c)

Blood groups	Antigen on RBC	Antibodies in serum
A	A	anti-b
B	B	anti-a
AB	A and B	—
O	—	anti-a and anti-b

Hence, blood group AB has no antibodies in serum but both antigens A and B.

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In which of the following points pulmonary artery is different from pulmonary vein ?

(A) larger lumen

(B) thick muscular walls

(C) no endothelium

(D) valves

CORRECT ANSWER: B

SOLUTION:

(b) Arteries have thick walls, narrow lumen but no valves.

Endothelium is present in both arteries and veins.

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Which one engulfs pathogens rapidly ?

(A) Acidophills

(B) Monocytes

(C) Basophils

(D) Neutrophils

CORRECT ANSWER: D

SOLUTION:

(d) Neutrophils are granulocytes, i.e., cytoplasm is filled with fine granules. These granules are actually lysosome and Glogi bodies. These are the chief phagocytic cells of the body and engulf the microbes by phagocytosis so neutrophils are also called soldiers of the body.

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Which one is the correct route through which pulse making impulse travels in the heart

(A) AV node → Bundle of His → SA node →
Purkinje fibres → Heart muscles

(B) AV node → SA node → Purkinje fibres →
Bundle of His → Heart muscles

(C) SA node → Purkinje fibres → Bundle of His →
AV node → Heart muscles

(D) SA node → AV node → Bundle of His →
Purkinje fibres → Heart muscles

CORRECT ANSWER: D

SOLUTION:

(d) The correct route through which pulse - making impulse travels in the heart is :

SA node → AV node → Bundle of His → Purkinje fibres → Heart muscles.

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Q-26 - 34100621

Wall of blood capillary is formed of

- (A) haemocytes
- (B) parietal cells
- (C) endothelial cells
- (D) oxyntic cells

CORRECT ANSWER: C

SOLUTION:

(c) Each capillary is lined by a single layer of flat cells, called endothelium. The endothelium allows the exchange of materials like the nutrients, respiratory gases, waste products, hormones, etc between the blood and surrounding tissues called through the tissue fluid.

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Q-27 - 34100533

Name the blood cells, whose reduction in number can cause clotting disorder, leading to excessive loss of blood from the body.

(A) Erythrocytes

(B) Leucocytes

(C) Neutrophils

(D) Thrombocytes

CORRECT ANSWER: D

SOLUTION:

(d) A reduction in number of thrombocytes can lead to clotting disorders which will result in excessive loss of blood from the body. These are also called blood pressure.

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Q-28 - 34100563

Examination of blood of a person suspected of having anaemia, shows large, immature, nucleated erythrocytes without haemoglobin. Supplementing his diet with which of the following is likely to alleviate his symptoms

(A) Thiamine

(B) Folic acid and cobalamin

(C) Riboflavin

(D) Iron compounds.

CORRECT ANSWER: D

SOLUTION:

(d) Anaemia refers to any condition in which there is an abnormally low haemoglobin concentration and / or blood cell count. The most common cause is deficiency of iron which is an essential element of haemoglobin molecule. Thus, the iron compounds in the diet will help to alleviate the symptoms of anaemia.

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The antibodies are

(A) germs

(B) carbohydrates

(C) proteins

(D) lipids

CORRECT ANSWER: C

SOLUTION:

(c) Antibodies are glycoproteins and are secreted by mature vertebrate plasma cells which are modified form of B-cells.

These selectively bind to epitopes of antigens and clumping them (agglutination) prior to phagocytic engulfment.

Q-30 - 34100617

Dup sound is produced during closure of

(A) semilunar valves

(B) bicuspid valve

(C) tricuspid valve

(D) Both (b) and (c)

CORRECT ANSWER: A

SOLUTION:

(a) The period between the end of one heartbeat to the end of next heartbeat is called cardiac cycle is formed of three phases.

Atrial systole, ventricular systole and join distole During

ventricular systole closing of Auriculo ventricular (AV) valve at the start of ventricular systole produces first heart sound called 'lubb' of systolic acid .

During joint diastole rapid closure of semilunar valves at the beginning of ventricular diastole produces the second heart sound called 'dup'.

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Q-31 - 34100632

Which one engulfs pathogens rapidly ?

- (A) Acidophills
 - (B) Monocytes
 - (C) Basophils
 - (D) Neutrophils
-

CORRECT ANSWER: D

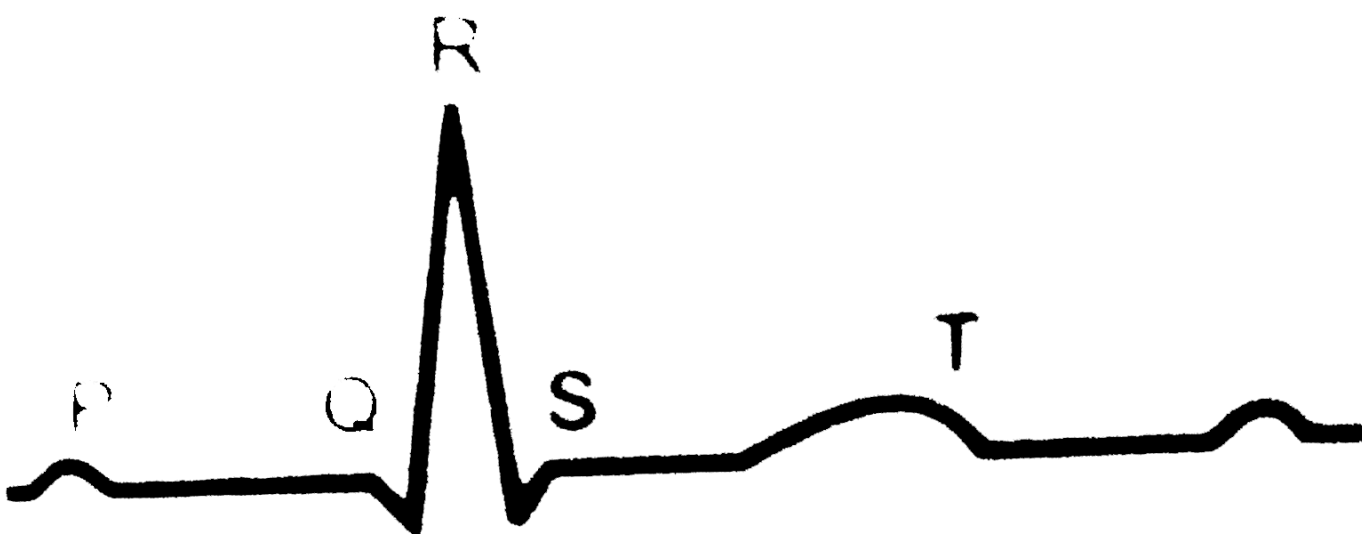
SOLUTION:

(d) Neutrophils are granulocytes, i.e., cytoplasm is filled with fine granules. These granules are actually lysosome and Golgi bodies. These are the chief phagocytic cells of the body and engulf the microbes by phagocytosis so neutrophils are also called soldiers of the body.

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Q-32 - 34100542

The diagram given here is the standard ECG of a normal person, the P-wave represents the



(A) contraction of both the atria

(B) initiation of the ventricular contraction

(C) beginning of the systole

(D) end of systole

CORRECT ANSWER: A

SOLUTION:

(a) In ECG, P-wave represents the depolarisation of atria which leads to the contraction of both atria. T-wave represents the return of ventricles from excited to normal state. The QRS complex represents the depolarisation of the ventricles which initiates ventricular contraction. The contraction starts shortly after Q and marks the beginning of systole.

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In humans, blood passes from the post caval to the diastolic right atrium of heart due to

- (A) pushing open of the venous valves
- (B) suction pull
- (C) stimulation of the sino auricular node
- (D) pressure difference between the post caval and atrium

CORRECT ANSWER: D

SOLUTION:

(d) Due to the pressure difference between the post caval and atrium, the blood passes from the post caval to the diastolic right atrium. Because the action of heart

includes contractions and relaxations of the atria and ventricles. The dynamics of blood flow in blood vessels is no exception and blood flows through the blood vessels along a pressure gradient, always moving from higher to lower pressure areas.

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Q-34 - 34100600

Histamine is secreted by

- (A) fibroblasts
- (B) histocytes
- (C) lymphocytes
- (D) mast cell

CORRECT ANSWER: D

SOLUTION:

(d) Histamine is a potent vasodilator formed by decarboxylation of the amino acid histidine and released by mast cell in response to appropriate antigens.

Mast cells are especially prevalent in the connective tissue of the skin, respiratory tract and in surrounding blood vessels.

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Q-35 - 34100571

Bundle of His is a network of

- (A) nerve fibres distributed in ventricles
- (B) nerve fibres found throughout the heart
- (C) muscle fibres distributed throughout the heart walls

(D) muscle fibres found only in the ventricle wall

CORRECT ANSWER: D

SOLUTION:

(d) Bundle of His is a network of specialised conducting muscle fibres (Purkinje fibres) which transmit the impulse from AV node to all parts of both the ventricles.

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Q-36 - 34100591

Which one is the principal cation in the plasma of blood ?

(A) Magnesium

(B) Sodium

(C) Potassium

(D) Calcium

CORRECT ANSWER: B

SOLUTION:

(b) The concentration of Na^+ in plasma is 0.32% followed by K^+ (0.02 %) and magnesium (0.0025%). The minerals iron like Na^+ and others present in the blood plasma play an essential role in the maintenance of osmotic pressure of blood.

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Q-37 - 34100630

A person with blood group A required blood. The blood group which can be given is

(A) A and B

(B) A and AB

(C) A and O

(D) A, B, AB and O

CORRECT ANSWER: C

SOLUTION:

(c) Blood group A has A antigen and b antibody and blood group O has no antigens and both a and b antibodies so, if a patient with blood group A needs blood, both A and O blood group can be give to him.

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Q-38 - 34100535

Which one of the following animals has two separate circulatory pathways

(A) Frog

(B) Lizard

(C) Whale

(D) Shark

CORRECT ANSWER: C

SOLUTION:

(c) The circulatory sytem in which two distinct and separate circulatory pathways for blood flow are involved, is called double circulatory system (also , double-loop ciculatory system). It occurs in mammals and birds. Whale is a mammal, so it shows above characteristic.

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Which of the following statements is true for lymph ?

(A) WBC and serum

(B) All components of blood except RBCs and some proteins

(C) RBCs, WBCs and plasma

(D) RBCs , protein and platelets

CORRECT ANSWER: B

SOLUTION:

(b) Lymph is known as blood minus RBCs and some proteins. The main site of lymph formation is interstitial space and normally the rate of lymph formation is equal to the rate of its return to blood stream.

Q-40 - 34100637

The breakdown product of haemoglobin is called as

- (A) bilirubin
 - (B) iron
 - (C) biliverdin
 - (D) Calcium
-

CORRECT ANSWER: A

SOLUTION:

(a) Haemoglobin of erythrocytes split off into heme and globin. The core of iron in heme is salvaged, bound to protein as hemosiderin and stored for reuse.

The remaining of the heme group is degraded to bilirubin

a yellow pigment that is released into the blood. Bilirubin is picked up by liver cells which in turn secrete it into the intestine where it is metabolised to urobilinogen.

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Q-41 - 34100623

Splenic artery arises from

- (A) anterior mesenteric artery
- (B) coeliac artery (or celiac artery)
- (C) posterior mesenteric artery
- (D) intestinal artery

CORRECT ANSWER: B

SOLUTION:

(b) Splenic artery is the blood vessel that supplies oxygenated blood to the spleen. It branches from the celiac artery and follows a course superior to the pancreas .

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Q-42 - 34100543

A certain road accident patient with unknown blood group needs immediate blood transfusion. His one doctor friend at once offers his blood .What was the blood group of the donor ?

- (A) Blood group B
 - (B) Blood group AB
 - (C) Blood group O
 - (D) Blood group A
-

CORRECT ANSWER: C

SOLUTION:

(c) Blood group is tested by two types of sera, i.e., anti - A (antibody -A) and anti-B (antibody-B). Persons with blood group O possess both antibodies in their plasma but have no antigens in their RBCs. So, RBCs of blood group 'O' do not show clumping in any of the two sera. That 's why, persons with blood group 'O' are called universal donor and they can donate blood to a person with any type of blood group.

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Q-43 - 34100560

If you suspect major deficiency of antibodies in a person, to which of the following would you look for confirmatory evidence

(A) Serum albumins

(B) serum globulins

(C) Fibrinogen in the plasma

(D) Haemocytes

CORRECT ANSWER: B

SOLUTION:

(b) Deficiency of antibodies can be confirmed by serum globulins as antibodies are also called immunoglobulins and constitute gamma globulin part of blood proteins. These are secreted by activated B-cells or plasma cells.

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Systemic heart refers to

- (A) entric heart in lowwer vertebrates
 - (B) the two ventricles together in humans
 - (C) the heart that contracts under stimulation from nervous system
 - (D) left auricle and left ventricle in hihger vertebrates.
-

CORRECT ANSWER: A

SOLUTION:

(a) Systemic heat refers to entric heart in lower vertebrates. It pumps the blood to differen body parts and not to lungs.

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QRST is related with

- (A) ventricular contraction or depolarization
- (B) Auricular contraction
- (C) Auricular relaxation
- (D) Cardiac cycle

CORRECT ANSWER: D

SOLUTION:

It is also called ventricular complex.

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Q-46 - 18704550

If the heart sound recording and ECG recordings are superimposed then the first heart sound would occur

(A) At the P wave

(B) Just after the P wave

(C) Just before the QRS complex

(D) just after the QRS complex

CORRECT ANSWER: D

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Q-47 - 18704552

In a typical heart if EDV is 120ml of blood and ESV is 50ml of blood ,the stroke volume (SV) is

(A) $120 - 50 = 70\text{ml}$

(B) $120 + 50 = 70\text{ml}$

(C) $120 \times 50 = 60\text{ml}$

(D) $120 \div 50 = 2.4\text{ml}$

CORRECT ANSWER: A

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Q-48 - 34100536

Doctors use stethoscope to hear the sounds produced during each cardiac cycle. The second sound is heard when

(A) AV valves open up

(B) ventricular walls vibrate due to gushing in of blood from atria

(C) semilunar valves close down after the blood flows into vessels from ventricles

(D) AV node receives signal from SA node

CORRECT ANSWER: C

SOLUTION:

(c) In healthy adults, there are two normal heart sounds often described as lub and dup. These are the first heart sound and second heart sound produced by the closing of the AV valves and semilunar valves respectively.

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Q-49 - 34100561

A drop of each of the following, is placed separately on four sides.

Which of them will not coagulate ?

(A) Blood plasma

(B) Blood serum

(C) Sample from the thoracic duct of lymphatic system

(D) Whole blood from pulmonary vein.

CORRECT ANSWER: B

SOLUTION:

(b) Serum will not coagulate. Because serum do not contain clotting factor, RBCs or WBCs . It is blood plasma not including the fibrinogens.

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Q-50 - 34100615

Closed circulatory system occurs in

- (A) cockroach
 - (B) tadpole/fish
 - (C) mosquito
 - (D) house fly
-

CORRECT ANSWER: B

SOLUTION:

(b) Closed circulatory system is usually high pressure system, in which blood flows in closed tubular structures called blood vessels (arteries, veins and capillaries). It is found in most of annelids, cephalopods , among the molluscs and all vertebrates including human beings. In this type of system there is no direct contact between body tissues and blood. This is more efficient as blood circulation is completed in short period .

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Q-51 - 34100598

Which of the following is not main function of lymph glands ?

(A) Forming WBC

(B) Forming antibodies

(C) Forming RBC

(D) Destroying bacteria

CORRECT ANSWER: C

SOLUTION:

(c) Cells of lymph nodes perform the following function.

(a) produce lymphocytes (b) synthesise antibodies (c)

destroy bacteria by phagocytosis

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Q-52 - 34100568

You are required to draw blood from a patient and to keep in it a test tube for analysis of blood corpuscles and plasma. You are also provided with the following four types of test tubes. Which of

them will you not use for the purpose.

(A) Test-tube containing calcium bicarbonate

(B) Chilled test tube

(C) Test tube containing heparin

(D) Test tube containing sodium oxalate

CORRECT ANSWER: A

SOLUTION:

(a) Clotting of collected blood can be prevented by coating the test tube with silicon or adding chelating agents. Citrate, oxalate, heparin and EDTA are anticoagulants.

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Adult human RBCs are enucleate. Which of the following statement (s) is/are most appropriate explanation for this feature ?

- (1) They do not need to reproduce
- (2) They are somatic cells
- (3) They do not metabolise
- (4) All their internal space is available for oxygen transport.

(A) Only (IV)

(B) Only (I)

(C) (I),(III) and (IV)

(D) (II) and (III)

CORRECT ANSWER: A

SOLUTION:

(a) The absence of nucleus in RBC is an adaptation that allows it to contain more haemoglobin and carry more

oxygen by providing empty space. This adaptation also aids in effective diffusion of oxygen.

Concept Enhancer RBCs are initially produced in bone marrow with a nucleus. They, then undergo enucleation at maturity , in which their nucleus is removed.

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Q-54 - 34100556

If due to some injury the chordae tendineae of the tricuspid valve of the human heart is partially non-functional, what will be the immediate effect ?

- (A) The flow of blood into the aorta will be slowed down.
- (B) The 'pacemaker' will stop working
- (C) The blood will tend to flow back in to the left atrium
- (D) the flow of blood into the pulmonary artery will be

reduced.

CORRECT ANSWER: D

SOLUTION:

(d) If chordae tendinae of the tricuspid valve became partially non-functional due to the injury then the flow of blood into the pulmonary artery will be reduced. Because chordae tendinae, arise from papillary muscle and insert upon the flaps of tricuspid and bicuspid valves and the valves in the heart allow the flow of blood only in one direction, i.e., from the atria to the ventricles and from the ventricles to the pulmonary artery or aorta.

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Q-55 - 34100565

Which of the following substances, if introduced into the blood

system, would cause coagulation of blood at the site of its introduction

(A) Fibrinogen

(B) Prothombin

(C) Heparin

(D) Thromboplastin

CORRECT ANSWER: D

SOLUTION:

(d) Lipoproteinaceous, thromboplastin is released by the injured tissue which causes blood clotting. In blood vessels, thromboplastin do not release due to which blood does not clot. But external thromboplastin to blood will cause blood clotting at the site of tis introduction due to the formation of prothrombinase.

Q-56 - 34100545

Arteries are best defined as the vessels which

- (A) carry blood away from the heart to different organs.
- (B) break up into capillaries which reunite to form a vein
- (C) carry blood from one visceral organ to another visceral organs
- (D) supply oxygenated blood to the different organs.

CORRECT ANSWER: A

SOLUTION:

(a) Arteries are blood vessels that carry blood away from the heart towards different organs. They generally contain oxygenated blood (except pulmonary artery

which contains deoxygenated blood.) The blood flows in an artery under alternate increased pressure and with jerks.

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Q-57 - 34100579

Continuous bleeding from an injured part of body is due to deficiency of

(A) vitamin-A

(B) vitamin-B

(C) vitamin-K

(D) vitamin-E

CORRECT ANSWER: C

SOLUTION:

(c) Vitamin-K is required for clotting process, it is required for the formation of prothrombin in liver, the deficiency of which leads to severe bleeding disorders. Deficiency of Vitamin-A causes night blindness, xerophthalmia, keratomalacia, retarded growth. Deficiency of vitamin -B causes beri-beri disease. Deficiency of vitamin -E causes sterility.

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Q-58 - 34100596

An adult human with average health has systolic and diastolic pressures as

- (A) 80mm Hg and 80 mm Hg
- (B) 70 mm Hg and 120 mm Hg
- (C) 120 mm Hg and 80 mm Hg

(D) 50 mm Hg and 80 mm Hg

CORRECT ANSWER: C

SOLUTION:

(c) In a normal human being , the systolic and diastolic pressure are 120 mm Hg and 80 mm Hg respectively.

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Q-59 - 34100603

The life span of human granulocytic WBC is approximately

(A) less than 10 days

(B) between 20-30 days

(C) between 2-3 months

(D) more than 4 months

CORRECT ANSWER: A

SOLUTION:

(a) Human WBC (or leukocytes) life span is approximately less than 10 days. Leukocytes constitute less than 1% of the cells in human blood. They are large in size than red blood cells. They have nucleus but no haemoglobin.

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Q-60 - 34100540

Figure shows schematic plan of blood circulation in humans with labels A to D, Identify the label and given its function / s



(A) A-pulmonary vein-takes impure blood from body part,

$$pO_2 = 60mmHg$$

(B) B-pulmonary artery takes blood from heart to lungs,

$$pO_2=90 \text{ mm Hg}$$

(C) C-vena cava take blood from body parts to right

$$\text{auricle, } pCO_2 = 45 \text{ mm Hg}$$

(D) D-dorsal aorta takes blood from heart to body parts ,

$pO_2 = 95$ mm Hg

CORRECT ANSWER: C

SOLUTION:

(c) The correct labelling of parts with their respective functions is as follows.

A. Pulmonary vein	takes oxygenated blood from lung and carried it to left auricle.
B. Dorsal aorta	takes blood from heart to body parts, $pO_2 = 95$ mm Hg.
C. Vena cava	takes blood from body parts to right auricle $pCO_2 = 45$ mm Hg
D. Pulmonary artery	takes blood from heart to lungs, $pO_2 = 90$ mm Hg

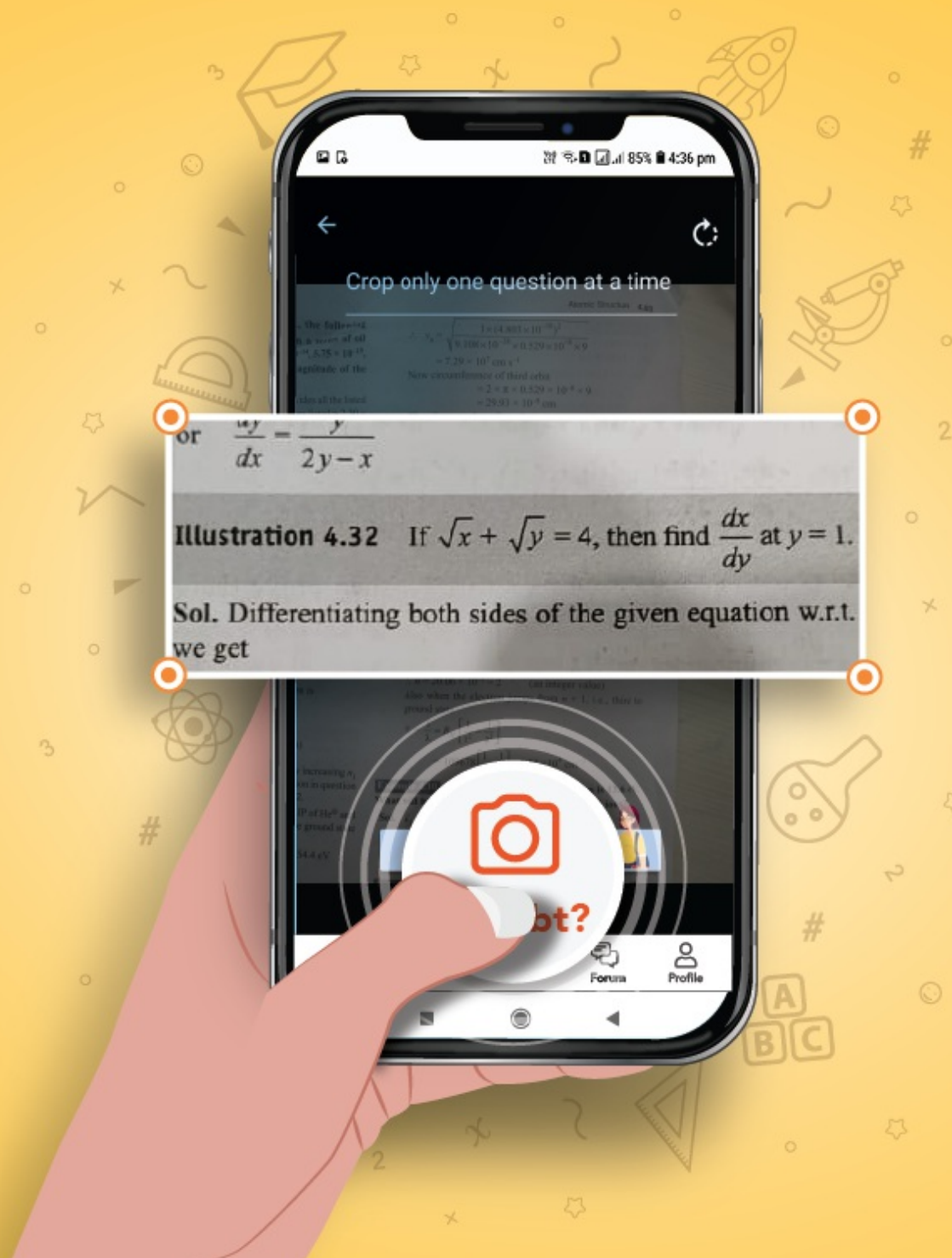
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