



BIOLOGY

BOOKS - MAXIMUM PUBLICATION

BODY FLUIDS AND CIRCULATION

Exercise

1. Name the double walled membrane of human heart. (Cuticle, Pleura, Pericardium, Sarcolemma)



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2. Which metal is responsible for blood clotting ?

A. Iron

B. Calcium

C. Copper

D. Magnesium

Answer: B



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3. In a case sheet, doctor denoted a patients BP as 140/90. What it shows ?



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4. Mark the pair of substances among the following which is essential for coagulation of blood.

A. Heparin and calcium ions

B. Calcium ions and platelet factors

C. Oxalates and citrates

D. Platelet factors and heparin

Answer: B



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5. Which one of the following type of cells lack nucleus?

A. RBC

B. Neutrophils

C. Eosinophils

D. Monocytes

Answer: A



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6. ECG depicts the depolarisation and repolarisation processes during the cardiac cycle. In the ECG of a normal healthy individual one of the following waves is not represented

- A. Depolarisation of atria
- B. Repolarisation of atria
- C. Depolarisation of ventricles
- D. Repolarization of ventricles

Answer: B



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7. Which one of the following blood cells is involved in antibody production.

A. B-Lymphocytes

B. T-Lymphocytes

C. RBC

D. Neutrophils

Answer: A



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8. The cells involved in inflammatory reactions are

A. Basophils

B. Neutrophils

C. Eosinophils

D. Lymphocytes

Answer: A



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9. Name the incompatibility observed between the Rh -ve blood of a pregnant mother with Rh+ve blood of the foetus.



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10. Tricuspid valve is present in between
and.....?

A. Right auricle and right ventricle

B. Left auricle and left ventricle

C. Right auricle and left auricle

D. Right ventricle and left ventricle

Answer: A



11. Rhythmic heartbeat is maintained by a highly specialized excitatory and conductive system. The correct sequence of events will be

A. A V node → Bundle of His → S A node →
Purkinje fibers

B. Purkinje fibers → A V node → S A node
→ Bundle of His

C. A V node → S A node → Bundle of His

→ Purkinje fibers


D. S A node → A V node → Bundle of His →

Purkinje fibers

Answer: D



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12. The normal cardiogram of man is shown below.  In the diagram, QRS wave has largest amplitude, which represents ventricular

depolarisation. What condition is obtained if QRS wave is enlarged?




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13. Doctor advised to administer Anti Rh antibodies to Seetha immediately after the first delivery. Justify this statement.



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14.  Mention the role of A in the myogenic property of Heart

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15. Silicosis, T.B., Pneumonia, asbestosis are the dis-eases affecting respiratory system. Name four dis-eases affecting circulatory system.

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16. The average life span of RBC is 120 days.

Write the places where RBC is produced and destroyed ?



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17. The average life span of RBC is 120 days.

Name respiratory pigment in Human RBC.



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18. The stroke volume of a normal person is 70 ml/min. Find out his cardiac output ? (Hint: Cardiac output = stroke volume x No. of heart beats/min.)



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19. Suppose your friend is suffering from obesity, diabetes and hypertension etc. What are the type of food materials would you suggest ?





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20. Some of the features of the body fluids are listed below. Analyse the features and categorise them into two groups.

- Transparent fluid found in tissue space, Extra cellular fluid of the blood.
- Contains 91% water, 7% proteins and 1% inorganic and organic substances.
- Absorbs the digested fats and lipids and transports in the form of chylomicrons.



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21. Bundle of His is divided into finer branches known as Purkinje Tissue. Impulses are conducted rapidly along these fibres at 5 m/s and spread from these to all parts of the chambers. What is the function of Purkinje Tissue?



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22. Bundle of His is divided into finer branches known as Purkinje Tissue. Impulses are

conducted rapidly along these fibres at 5 m/s and spread from these to all parts of the chambers. Which are the chambers mentioned in the paragraph?



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23. "All veins carry deoxygenated blood and all arteries carry oxygenated blood." Do you agree? Justify



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24. "All veins carry deoxygenated blood and all arteries carry oxygenated blood." Do you agree? Justify



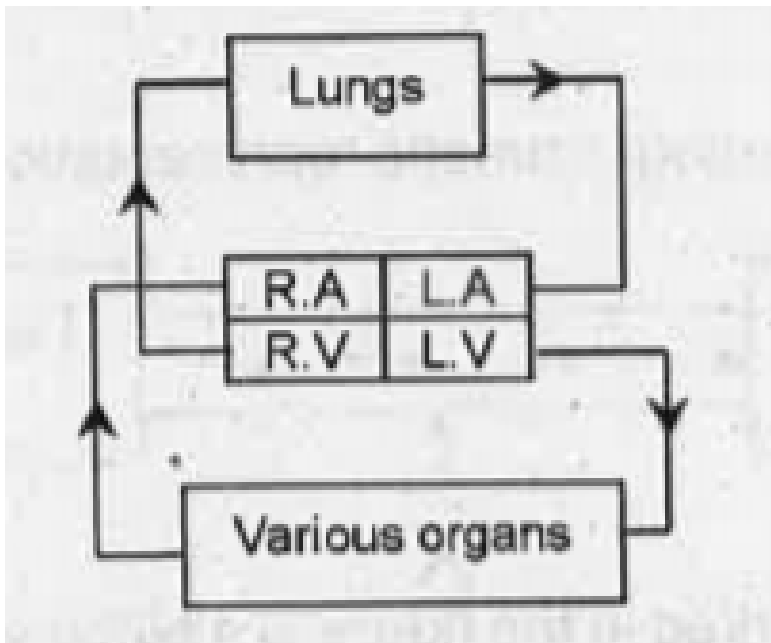
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25. Using the terms given, prepare a flow chart in correct order. Right auricle, aorta, left ventricle, left auricle, superior vena cava, capillaries, lungs, right ventricle, pulmonary vein, pulmonary artery.



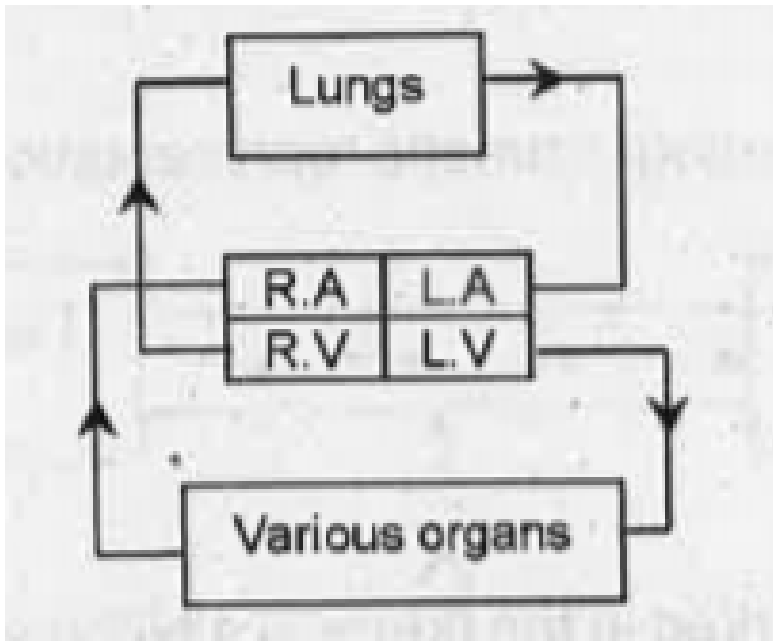
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26. The human blood vascular system is diagrammatically represented below.



. What is the significance of Pulmonary circulation in the cardiac cycle?

27. The human blood vascular system is diagrammatically represented below.




Why circulation in human considering as double circulation?

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28. You know when you cut your finger or hurt yourself, your wound does not continue to bleed for long time. Usually blood stops flowing after sometime. State how?



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29. Copy the table and fill in the gap with appropriate words. 



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30. Study the diagrammatic representation :



. 'X' marked in the figure is a blood vessel.

Name the blood vessel.



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31. Study the diagrammatic representation : 

. Give the importance of circulation between these two organs.



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32. Heparin is a substance which prevents clotting of blood. Histamine is an anti-inflammatory substance. Mention the leucocytes that secrete the above said substances. Draw and label its nucleus.



Watch Video Solution

33. Heparin is a substance which prevents clotting of blood. Histamine is an anti-inflammatory substance. Mention the

leucocytes that secretes the above said substances. Draw and label its nucleus.



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34. Fill up the blank with appropriate words.

Thrombocytes are produced from _____.



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35. Fill up the blank with appropriate

words. Pace maker of the heart is _____.



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36. Fill up the blank with appropriate words. The nervous band that connects the two cerebral hemispheres is _____ .



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37. Draw a Schematic diagram showing the circulation of blood in man, starting from left

ventricle of heart and ending in the right auricle. Name the type of circulation



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38. Draw a Schematic diagram showing the circulation of blood in man, starting from left ventricle of heart and ending in the right auricle. Name the type of circulation



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39. A unique vascular connection exists between the digestive tract and liver. Name the vascular connection.



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40. A unique vascular connection exists between the digestive tract and liver. Name the vascular connection found in frog between kidney and lower parts of body.




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41. A unique vascular connection exists between the digestive tract and liver. What is CAD ?




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42. Complete the table using the terms given in bracket (Lymphocyte, granulocyte, eosinophil, basophil, plasma, leucocyte) 




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43. Observe the diagram given below and answer the question. . Identify the type of circulation.




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44. Observe the diagram given below and answer the question. . Prepare a flow chart showing the above circulation



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45. Observe the diagram given below and answer the question. . Write the purpose of this circulation.



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46. Leukocytes are the soldiers of the body. Justify?



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47. Listed below are some of the features of open and closed circulatory system. Arrange them into two categories.

- a) Usually low pressure system
- b) Found in vertebrates
- c) Blood returns to heart rapidly
- d) High pressure system
- e) Blood returns to heart slowly
- f) Found in Arthropods




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48. The heart of fish is said to be a venous heart, whether your heart is a venous one or not. Justify.




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49. Observe the diagram.  Identify the blood cell A and B.




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50. Observe the diagram.  How can they (blood cell A and B) be differentiated?



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51. Observe the diagram.  What are their (blood cell A and B) function?



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52. During a clinical check up doctor diagnosed that the patient's heart murmurs.

Why does a heart murmur?



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53. During a clinical check up doctor diagnosed that the patient's heart murmurs.

Why does a heart murmur?



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54. During a clinical check up doctor diagnosed that the patient's heart murmurs. The heart sound dub' is caused by the closure of AV valve. Do you agree with this statement?



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55. Observe the diagram and answer the following question. Name the area labelled here.



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56. Observe the diagram and answer the following question. Name the area labelled here.



Watch Video Solution

57. Observe the diagram and answer the following question. Name the area labelled here.




Watch Video Solution

58. Observe the diagram and answer the following question. Name the area labelled here.



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59. Match the following 



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60. A person's blood pressure is found to be about 140/100mm Hg. What is the condition the person is suffering?



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61. A person's blood pressure is found to be about 140/100mm Hg. How do you measure BP?



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62. A person's blood pressure is found to be about 140/100mm Hg. Blood pressure is 100/60mmHg. How you interpret it?



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63. The major findings of a health survey conducted in a corporation area are 1) 25% of the population are suffering from hypertension. 2) 15% of male above 40 years are suffering from various cardiac disorders. List any three cardio vascular disorders.



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64. The major findings of a health survey conducted in a corporation area are 1) 25% of the population are suffering from hypertension. 2) 15% of male above 40 years are suffering from various cardiac disorders. Suggest any two possible reason for this disorders.



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65. The major findings of a health survey conducted in a corporation area are 1) 25% of the population are suffering from hypertension. 2) 15% of male above 40 years are suffering from various cardiac disorders. Suggest any two advices to the disease.



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66. Match Column I with Column II. 



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67. Select the correct statement from the following: • Monocyte is a granulocyte. • Frog has 4 chambered heart. • Blood is a tissue. • The respiratory organs of insects are gills.



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68. Today we can measure blood pressure with a sphygmomanometer at home. This shows that people are very much concerned about high blood pressure. Find out why?



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69. Erythroblastosis foetalis is an Rh incompatibility disorder. Describe the circumstances in which erythroblastosis foetalis might arise.



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70. Erythroblastosis foetalis is an Rh incompatibility disorder. How is the problem usually averted?



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71. Write the odd one out and give the reason for your answer. P wave, QRS wave, T wave, beta wave.



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72. Write the odd one out and give the reason for your answer. Renal artery, Pulmonary artery, Hepatic artery, Coronary artery





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73. Write the odd one out and give the reason for your answer. SA node, lymph node, AV node, Purkinje fibres



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74. Cardiac output increases when we engage in physical exercises. However it may fall after the exercise stops We can see that it is a fully

heart controlled event. What is a cardiac output?




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75. Cardiac output increases when we engage in physical exercises. However it may fall after the exercise stops We can see that it is a fully heart controlled event. How does heart increase cardiac output during exercise?



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76. Copy and complete the table on blood group, antigen and antibody. And Name the blood groups commonly known as Universal donor and Universal recipient. 



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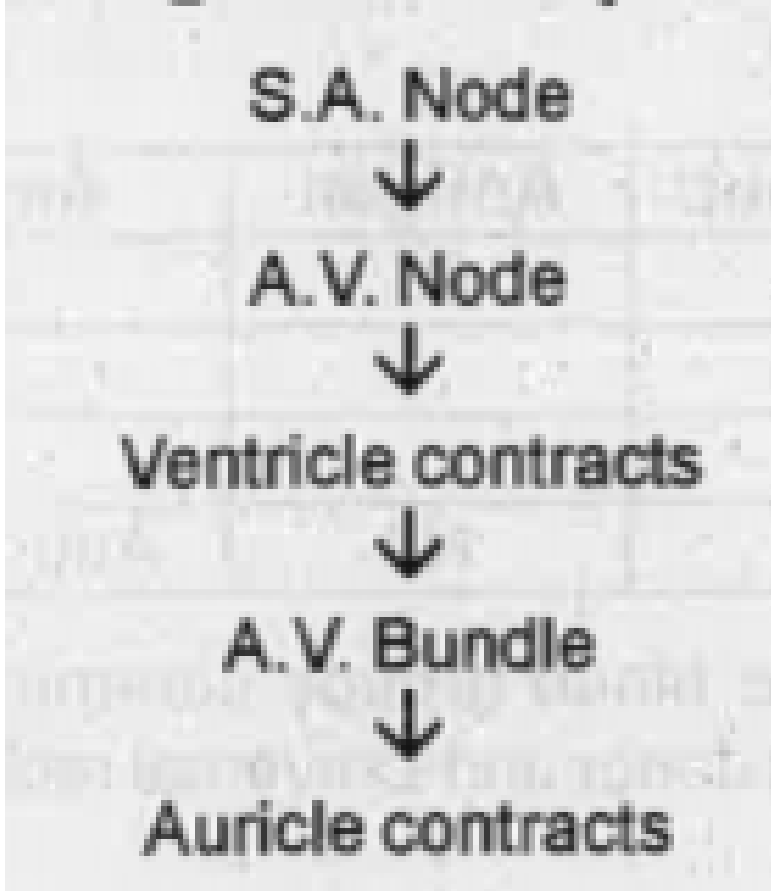
77. The blood test report of a patient is given below: (RBC $5.5 \text{millio} \frac{n}{m} m^3$, Neutrophil 65%, Monocyte 5%, Basophil 1%, Eosinophile 15%, Lymphocyte 23%, Platelet $250000 \text{millio} \frac{n}{m} m^3$).

Which constituent of his blood is abnormal ?



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78. Observe the flowchart and answer the questions :



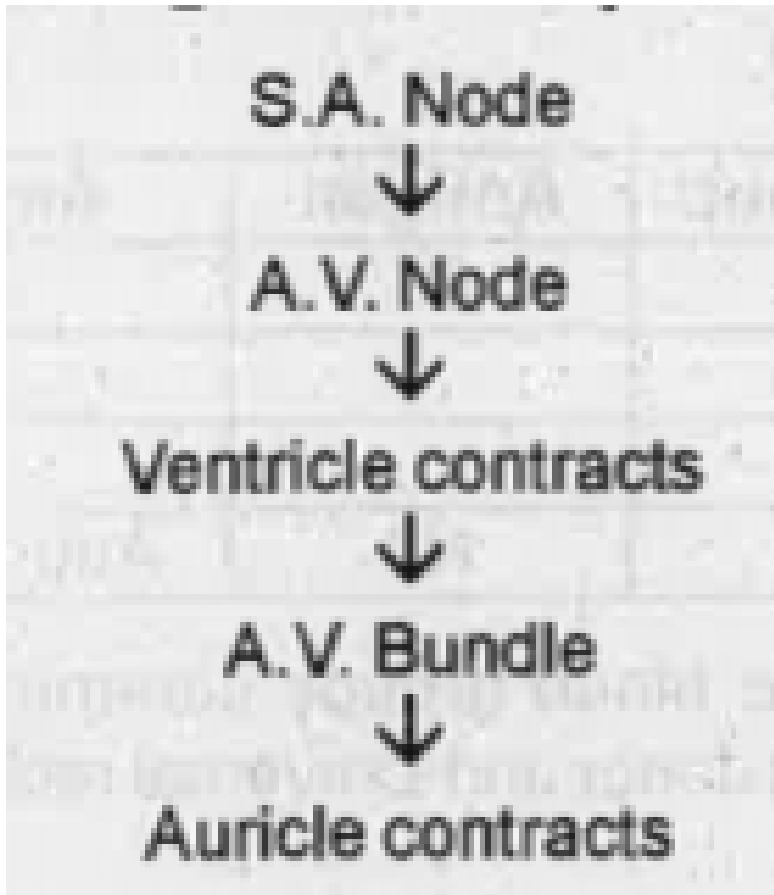
Re-draw

the flowchart correctly.



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79. Observe the flowchart and answer the questions :




What

will happen if the S.A, node is not working properly?

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80.  What is the normal percentage of WBC marked as b_1 ?

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81. Complete the table using the terms given in bracket (Lymphocyte, granulocyte, eosinophil, basophil, plasma, leucocyte) 

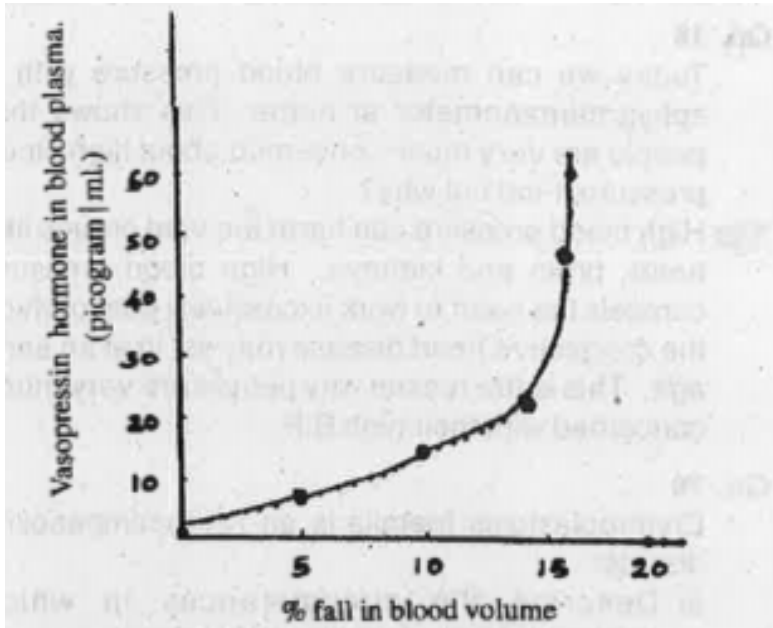
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82.

Analyse

the

graph



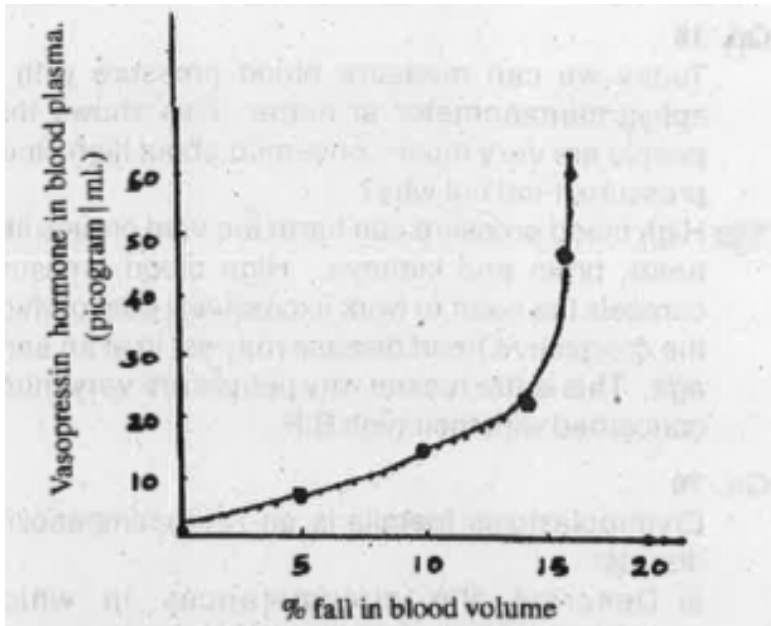
What is

the relationship between the amount of vasopressin in blood plasma and the blood volume?



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83. Analyse the graph



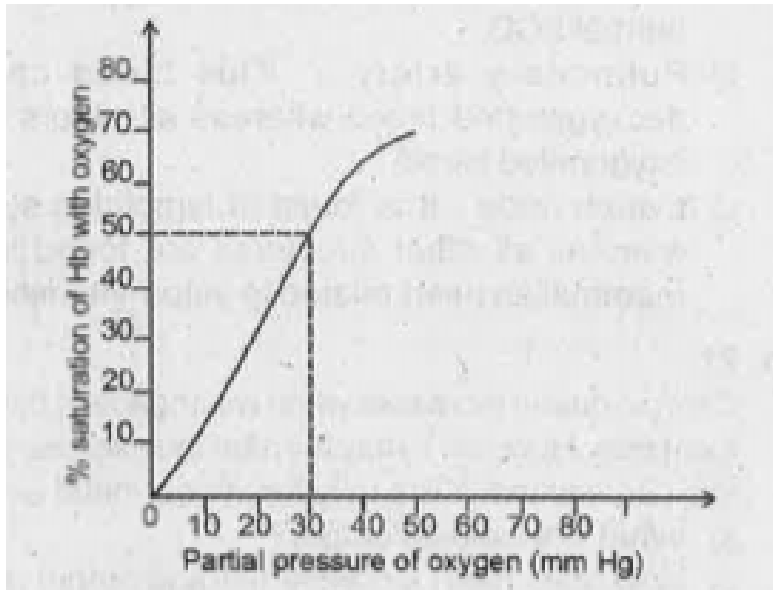
Suggest

a situations in which the vasopressin decreases in the blood.



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84. Observe the Graph.



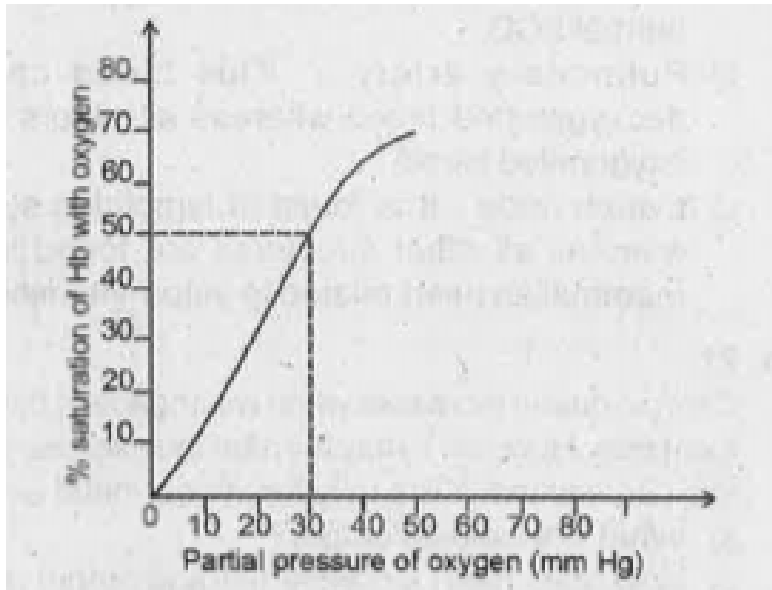
. identify

the partial pressure of oxygen where 50% of saturation of Hb with oxygen.



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85. Observe the Graph.

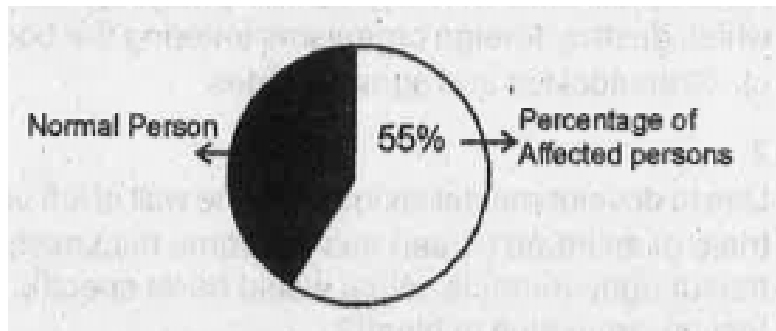


.Mention the factors favourable for the formation of oxyhaemoglobin in alveoli.



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86. Result of a project study related to the circulatory disorders to an area is given below.



.What is

your observation?



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87. Result of a project study related to the circulatory disorders to an area is given below.

Name any one circulatory disorder and its characteristics.



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88. The major findings of a health survey conducted in a corporation area are 1) 25% of the population are suffering from hypertension. 2) 15% of male above 40 years are suffering from various cardiac disorders. Suggest any two possible reason for this disorders.



89. Identify the wrong statement and rewrite in correct form.

A. (a) 'O' group is known as universal recipient.

B. (b) AB group blood has no antibodies.

C. (c) Blood normally contains 150000 to 350000 platelets/ mm^3

D. (d) Open circulation is present in arthropods and molluscs.

Answer:



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90. Match the following.

A	B
i) Basophil	Phagocytosis
ii) Lymphocyte	Inflammatory reaction
iii) Neutrophil	Associated with allergic reaction
iv) Eosinophil	Secrete antibodies Helps in blood coagulation Oxygen transport



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91. If a person having blood group A is given blood transfusion of blood group B by mistake, what will be its effect?



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92. The blood pressure of a person is shown as 170/130 mm Hg. What would be his disease? How it affects his body?



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93. A person with A-ve blood group is injured severely in an accident. His relatives with A+ve and B-ve blood groups were ready to donate blood for him. Infer the consequences if he receives blood from them.



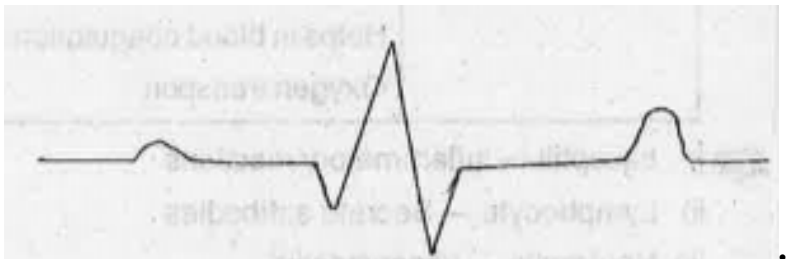
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94. Label PQRST in the graph.



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95.

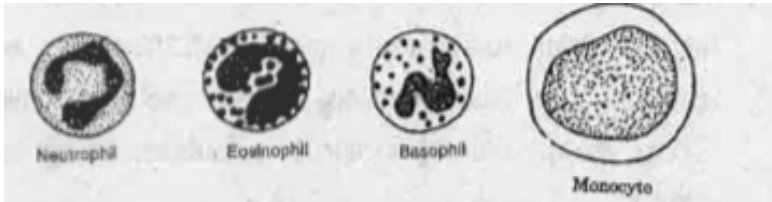


What does the T wave represent?



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96. Observe the blood cells and attempt the following question:



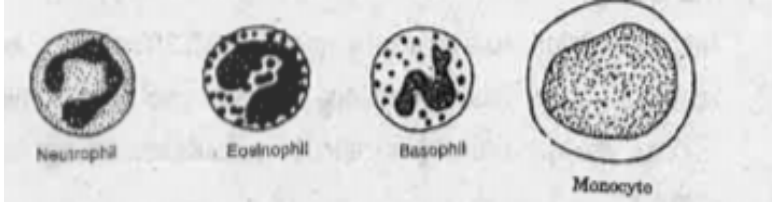
.Which

among the above cells least possibly found when you observe a drop of blood?



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97. Observe the blood cells and attempt the following question:

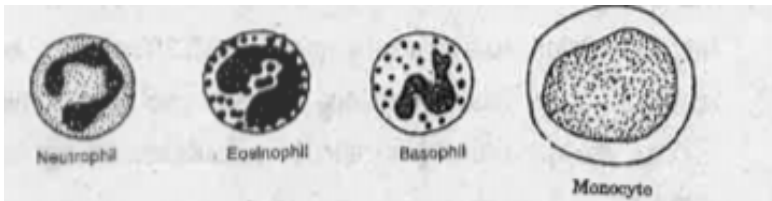


Write

one function of any two type.

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98. Observe the blood cells and attempt the following question:



Categorises the WBC based on presence or absence of protein granules.



99. Answer the following in a few words.

A. (a) Significance of pulmonary circulation
in man.

B. (b) Function of erythrocytes

C. (c) Pacemaker for a human heart and its
significance.

D. (d) Normal blood pressure of human
beings and its variation during

hypertension.

Answer:



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100. The sequential events in the heart which are cyclically repeated are called the cardiac cycle. What are the phases of the cardiac cycle?



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101. The sequential events in the heart which are cyclically repeated are called the cardiac cycle. Why do we call the human heart as myogenic?



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102. The sequential events in the heart which are cyclically repeated are called the cardiac cycle. Why do we call the human heart as myogenic?





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103. Find the odd one and write the function.

Neutrophil, Erythrocyte, Monocyte,

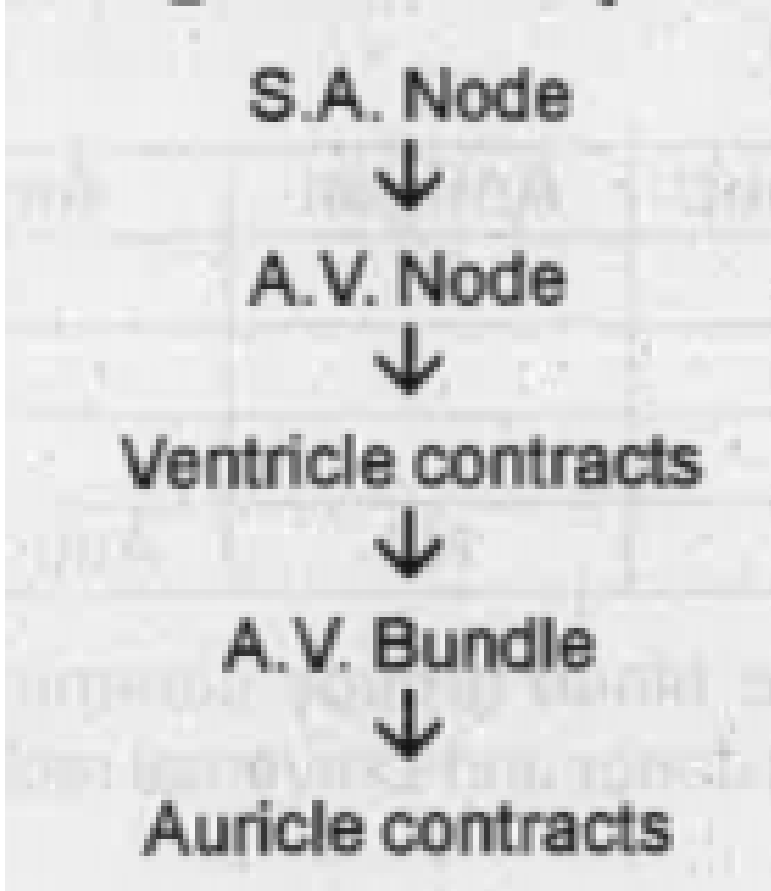
Lymphocyte, Basophil, Eosinophil.



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104. Observe the flowchart and answer the

questions :



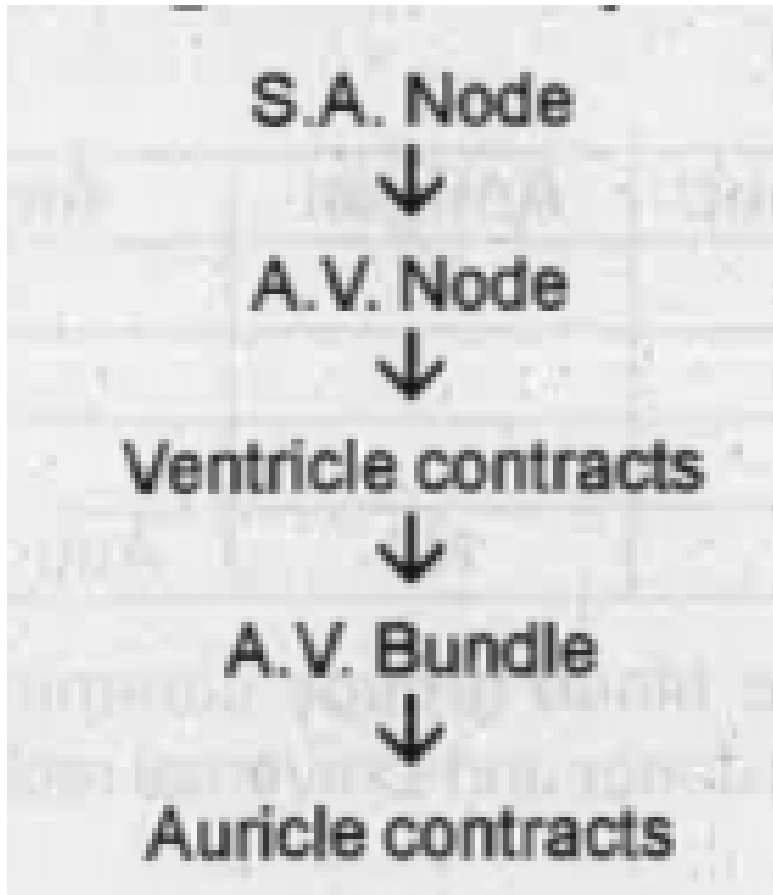
Re-draw

the flowchart correctly.



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105. Observe the flowchart and answer the questions :



What

will happen if the S.A, node is not working properly?



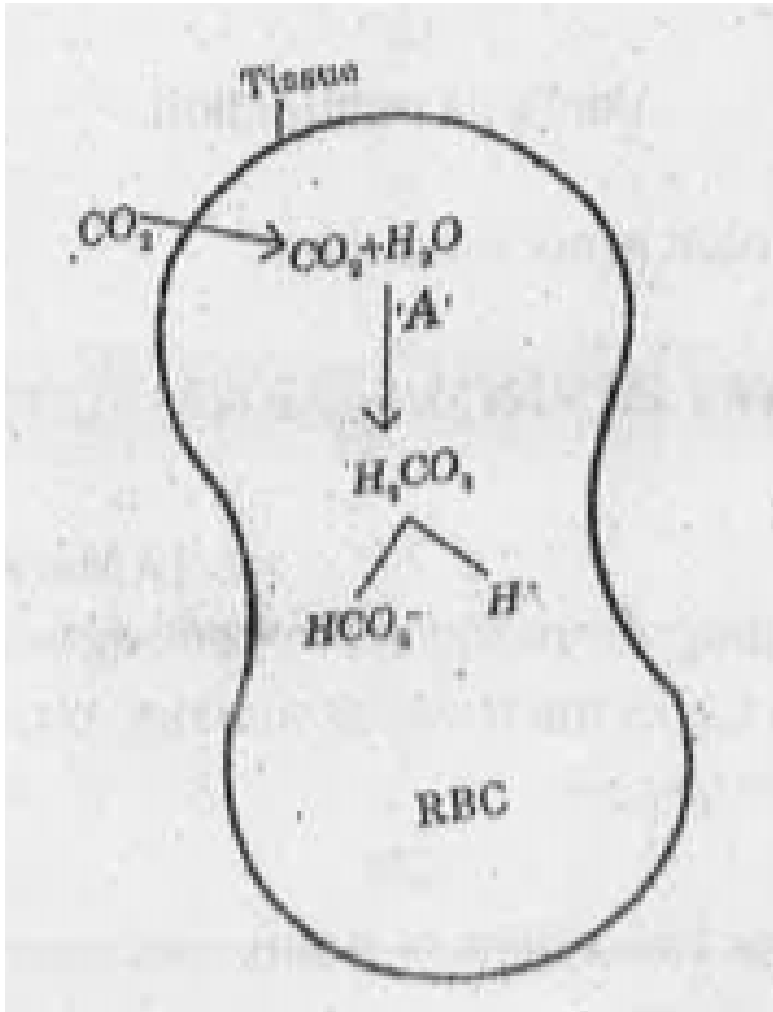
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106. Make a diagrammatic sketch of human double circulation. Label the three associated organs and any one blood vessel. OR Name the two types of heart valves and mention their functions.



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107. Carbon dioxide transport in the form of bicarbonate ion is pictured below.




Observe

the diagram and identify the enzyme



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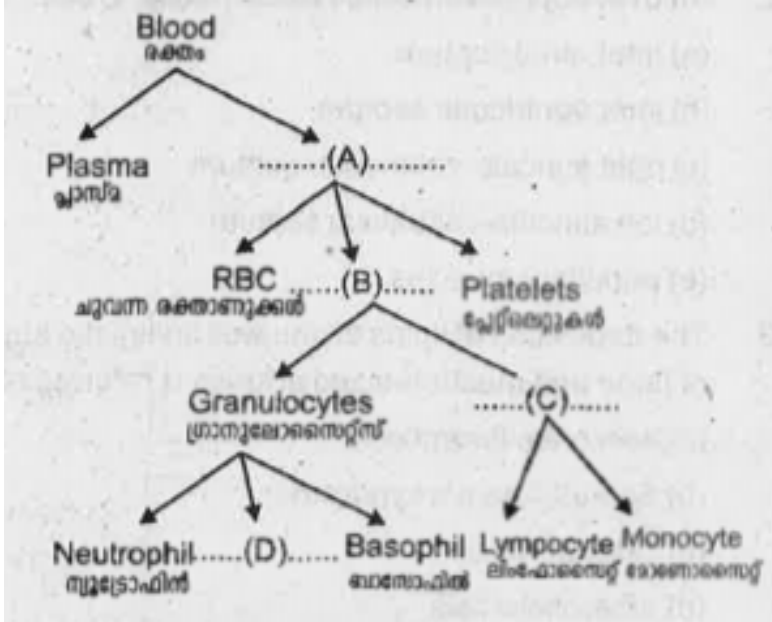
108. Transport of CO_2 , as Bicarbonates. 

Name the other ways of CO_2 transport.



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109. Fill up A, B, C, D and complete the
branching chart given below



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110. Write the function of platelets.



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111. ECG depicts the depolarisation and repolarisation processes during the cardiac cycle. In the ECG of a normal healthy individual one of the following waves is not represented



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112. Select the correct statement regarding the ECG of man.(i)P-wave represents auricular repolarization.(ii)P-wave represents ventricular repolarization.(iii)P-wave represents auricular

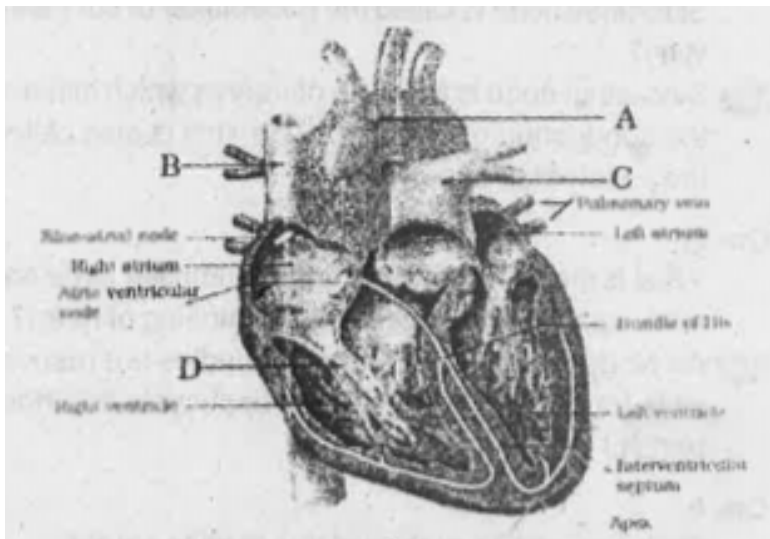
depolarization.(iv)P-wave

represents

ventricular depolarization.

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113. Observe the diagram and label A, B, C and



D.

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114. What is the importance of plasma proteins?



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115. Why do we consider blood as a connective tissue?



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116. Sino atrial node is called the pacemaker of our heart Why?



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117. What is the significance of atrioventricular node and atro ventricular bundle in the functioning of heart?



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118. Define a cardiac cycle and the cardiac output.



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119. What is the difference between lymph and blood?



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120. In higher vertebrates, SA-node helps

- A. conduction of blood
- B. initiation of heart beat
- C. opening of tricuspid valve
- D. opening of bicuspid valve

Answer: B



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121. An oval depression called fossa ovalis, is seen on

A. inter atrial septum

B. interventricular septum

C. right auriculo-ventricular septum

D. left auriculo-ventricular septum

Answer: A



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122. The deposition of lipids on the wall lining, the lumen of large and medium-sized arteries is referred to as

- A. deep vein thrombosis
- B. Stokes-Adam's syndrome
- C. osteoporosis
- D. atherosclerosis

Answer: D



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123. Which of the following are located in tunica media of human blood vessels?

A. Collagen fibres and smooth muscle

B. Squamous epithelium and striated muscle

C. white fibres and smooth muscle

D. Yellow fibres and smooth muscle

Answer: D



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124. The important function of lymph is to

- A. transport oxygen to the brain
- B. transport carbon dioxide to the lungs
- C. return RBCs to the lymph nodes
- D. return interstitial fluid to the blood

Answer: D



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125. Define a cardiac cycle and the cardiac output.

- A. heart rate
- B. stroke volume
- C. blood flow
- D. Both (a) and (b)

Answer: D



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126. Which of the following matches correctly?

- A. Inferior vena cava-Receives deoxygenated blood from the head and body
- B. Superior vena-Receives deoxygenated blood from the lower body and organs
- C. pulmonary artery-carries deoxygenated blood to lungs
- D. hepatic artery-carries deoxygenated blood to the gut

Answer: C



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127. The cardiac pacemaker in a patient fails to function normally. The doctors find that an artificial pacemaker is to be grafted in him. It is likely that it will be grafted at the site made up of

- A. atrioventricular bundle
- B. Purkinje system
- C. sinoatrial node

D. atrioventricular node

Answer: C



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128. Generally artificial pacemaker consists of one battery made up of

A. nickel

B. dry cadmium

C. photo sensitive material

D. lithium

Answer: D



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129. which type of white blood cells are concerned with the release of histamine and the natural anticoagulant heparin?

A. Neutrophils

B. Basophils

C. Eosinophils

D. Monocytes

Answer: B



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130. 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 caval
and atrium

Answer: D



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131. which one of the following has an open circulator system ?

A. Pheretima

B. Periplaneta

C. Hirudinaria

D. Octopus

Answer: B



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132. In higher vertebrates, SA-node helps

A. conduction of blood

B. initiation of heart beat

C. opening of tricuspid valve

D. opening of bicuspid valve

Answer: B



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133. The opening of auricles and ventricles on the right side is guarded by

A. tricuspid valve

B. bicuspid valve

C. semilunar valve

D. Eustachian tube

Answer: A



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134. Which of the following sequences is truly a systemic circulation pathway?

A. Right ventricle - * Pulmonary aorta -

* Tissues Pulmonary veins - * Left auricle

B. Right auricle - + Left ventricle - * Aorta -

Tissues - * Veins - * Right auricle

C. Left auricle - * Left ventricle - Pulmonary

aorta + Tissues - * Right auricle

D. Left auricle rarr* Left ventriclerarr

Pulmonary aorta rarr Arteriesrarr

Tissuesrarr* Veins rarr* Right

Answer: D



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135. Give reasons for the following.

- 1 . Respiratory and circulatory system are absent in parasitic platyhelminthes and Aschelminthes.
2. Arthropods are the most successful invertebrate.
3. Body of endoparasites are covered with cuticle.

A. III only

B. I and II

C. I and IV

D. IV only

Answer: C



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136. The artery, which supplies blood to the pericardium is

A. brachial artery

B. pulmonary vein

C. vertebral artery

D. coronary artery

Answer: D



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137. In diastole, heart is filled by

A. mixed blood

B. venous blood

C. oxygenated blood

D. deoxygenated blood

Answer: D



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138. You are required to draw blood from patient and to keep it in 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

Answer: C



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