



# BIOLOGY

## BOOKS - MBD

### Body Fluids and Circulation

#### Example

1. List the two types of circulatory system.



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2. Name the components of blood vascular system.



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3. What are two major components of lymphatic system?



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4. What are the two main types of blood vascular system?



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5. Give examples of animals having open type of circulation.



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6. In the invertebrates respiratory pigment if present it lies in which components?



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7. What is plasma?



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8. How much haemoglobin is present in blood of healthy individual?



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9. What is lymph?



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

A. RBC

B. Neutrophils

C. Eosinophils

D. Monocytes

**Answer:**



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**11.** Which one of the following blood cells is involved in antibody production?

A. B-Lymphocytes

B. T-Lymphocytes

C. RBC

D. Neutrophils

**Answer:**



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**12.** Name 2-layered sac surrounding the human heart.



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**13.** How many times the heart of a normal person beat per minute?



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**14.** Give the location of mitral valve and semilunar valves.



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**15.** Define a cardiac cycle and the cardiac output.



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**16.** What is myogenic heart?



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**17.** Name the nodal tissues regulating the heart beat.



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**18.** Which nodal tissue is called pacemaker of heart?



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**19.** Give the position of cardiac centres.



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**20.** Give the function of chordae tendinae.



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**21.** Name two arches of human heart.



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**22.** Name the main blood vessels.



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**23.** Name the blood vessel bound by single layer of epithelium.



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**24.** Name the three layer of blood vessels.



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**25.** Name the vessels which collect or bring blood to the heart.



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26. What is portal vein?



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27. Fill in the blanks

The cardiac impulse originates from the .....and is passed on the AV bundle by .....  
.....



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## 28. Fill in the blanks

The .....value close shortly after the start of ventricular systolle while the .....valves close shortly after the diastole starts.



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## 29. Fill in the blanks

Vena cava drain the blood into the ..... atrium while pulmonary veins drain the blood into the .....atrium.



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### 30. Fill in the blanks

The mitral valve has .....cusps while the aortic valve possesses .....cusps.



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### 31. Fill in the blanks

The human heart consists of .....chambers while fish heart has ..... Chambers.





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### 32. True or False

Both the auricles of the amphibian heart open into the same ventricle.



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### 33. True or False

Prawn heart carries only oxygenated blood.



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### 34. True or False

Purkinje fibres are nerve fibres supplying the ventricular muscle.



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### 35. True or False

The first heart sound results from a closure of semilunar valves.



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**36. True or False**

The vagus nerve reduces the heart rate.



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**37. Give the technical terms used for the following:**

A thin-walled sac surrounding the heart.



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**38.** Give the technical terms used for the following:

Portal vein and its branches collectively form system.



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**39.** Give the technical terms used for the following:

A wave of distension and recoiling of the

radial artery due to contraction of the left ventricle.



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**40.** Give the technical terms used for the following:

A group of cardiac muscles with wall of right atrium. It starts rhythmic waves of contraction of heart.



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**41.** Give the technical terms used for the following:

Blood passes twice through the heart to supply once to the body.



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**42.** Name the components of the formed elements in the blood and mention one major function of each of them.



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**43.** What is the importance of plasma proteins?



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**44.** Match column I with column II.

**Column I**

- (i) Eosinophils**
- (ii) RBC**

**Column II**

- Coagulation**
- Universal Recipient**

- (iii) AB Group**
- (iv) Platelets**
- (v) Systole**

- Resist Infections.**
- Contraction of Heart.**
- Gas transport.**



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**45.** Why do we consider blood as a connective tissue?



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**46.** What are the differences between lymph and blood?



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**47.** What is meant by double circulation? What is its significance?



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**48.** Give difference between blood and lymph



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**49.** Write the differences between : Open and Closed system of circulation





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**50.** Write the differences between :

Systole and Diastole



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**51.** Write the differences between :

P-wave and T-wave.



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**52.** Describe the evolutionary change in the pattern of heart among the vertebrates.



**Watch Video Solution**

**53.** Why do we call our heart myogenic?



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**54.** Why is the S-A node called pace-maker of the heart?





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**55.** What is the significance of atrio-ventricular node and atrio-ventricular bundle in the functioning of heart?



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**56.** Define a cardiac cycle and the cardiac output.



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**57.** Explain heart sounds.



**Watch Video Solution**

**58.** Draw a standard ECG and explain the different segments in it.



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**59.** Name the blood component which is viscous and straw coloured fluid.



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**60.** Complete the missing word in the statement given below:

Plasma without .....factors is called serum.



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**61.** Complete the missing word in the statement given below:

.....and monocytes are phagocytic cells.





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**62.** Complete the missing word in the statement given below:

Eosinophils are associated with .....reactions.



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**63.** Complete the missing word in the statement given below:

.....ions play a significant role in clotting.



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**64.** Complete the missing word in the statement given below:

One can determine the heart beat rate by counting the number of .....in an ECG.

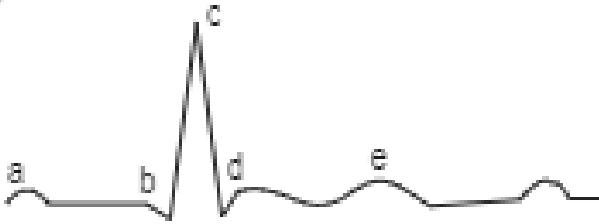


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**65.** Given below is the diagrammatic representation of a standard ECG. Label its

different

peaks



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**66.** Name the vascular connection that exists between the digestive tract and liver.



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**67.** Given below are the abnormal conditions related to blood circulation. Name the disorders.

Acute pain in chest due to failure of  $O_2$  supply of heart muscles.



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**68.** Given below are the abnormal conditions related to blood circulation. Name the

disorders.

Increased systolic pressure



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**69.** Which coronary artery diseases is caused due to narrowing of the lumen of arteries?



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**70.** State the functions of the following in blood.

## Fibrinogen



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71. State the functions of the following in blood.

Globulin



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72. State the functions of the following in blood.

## Neutrophils



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**73.** State the functions of the following in blood.

Lymphocytes



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**74.** What physiological circumstances lead to erythro-blastosis foetalis?



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**75.** Explain the consequences of a situation in which blood does not coagulate.



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**76.** What is the significance of time gap in the passage of action potential from sino-atrial node to the ventricle?



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77. How will you interpret an electrocardiogram (ECG) in which time taken in QRS complex is higher?



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78. The walls of ventricles are much thicker than atria. Explain.



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**79.** Differentiate between Blood and Lymph



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**80.** Differentiate between

Basophils and Eosinophils



**Watch Video Solution**

**81.** Differentiate between

Tricuspid and bicuspid valve



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**82.** Briefly describe the following:

Anaemia



**Watch Video Solution**

**83.** Briefly describe the following:

Angina pectoris



**Watch Video Solution**



**84.** Briefly describe the following:

Atherosclerosis



**Watch Video Solution**

**85.** Briefly describe the following:

Hypertension



**Watch Video Solution**

**86.** Briefly describe the following:

Heart failure



**Watch Video Solution**

**87.** Briefly describe the following:

Erythroblastosis foetals



**Watch Video Solution**

**88.** Explain the advantage of the complete partition of ventricle among birds and mammals and hence leading to double circulation.



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**89.** What is the significance of hepatic portal system in the circulatory system?



**Watch Video Solution**

**90.** Explain the functional significance of lymphatic system.



**Watch Video Solution**

**91.** Write the features that distinguish between the two  
Plasma and serum



**Watch Video Solution**

**92.** Differentiate between

Open and closed circulatory system



**Watch Video Solution**

**93.** Write the features that distinguish  
between the two

Sino-atrial node and Atrio-ventricular node



**Watch Video Solution**

**94.** Thrombocytes are essential for coagulation of blood. Comment.



**Watch Video Solution**

**95.** Name the major site where RBCs are formed.



**Watch Video Solution**

**96.** Which part of heart is responsible for initiating and maintaining its rhythmic activity?



**Watch Video Solution**

**97.** What is specific in the heart of crocodiles among reptillians?



**Watch Video Solution**

**98.** Explain Rh-incompatibility in humans.



**Watch Video Solution**

**99.** Describe the events in cardiac cycle. Explain "double circulation".



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**100.** Explain different types of blood groups and donor compatibility by making a table.





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**101.** Write short note on

Hypertension



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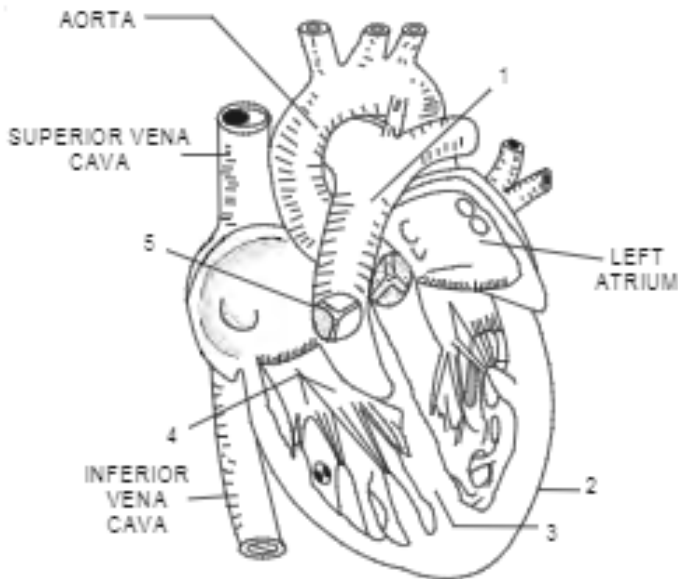
**102.** Write short note on

Coronary Artery Disease.



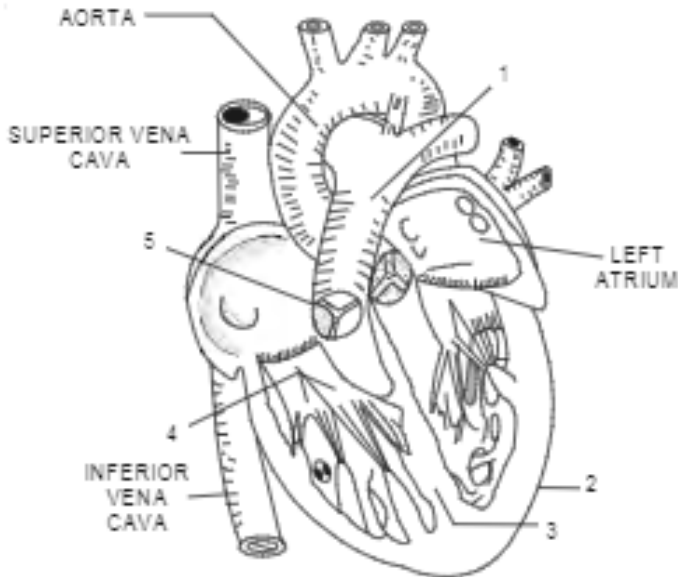
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**103.** Figure of internal structure of mammalian heart is provided. Carefully study it and Name the parts labelled as 1, 2, 3, 4, 5.



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**104.** Figure of internal structure of mammalian heart is provided. Carefully study it and Give one most important function of Each of these parts.



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**105.** How do a cellular protists circulate their nutrients?



**Watch Video Solution**

**106.** List two functions of circulatory system.



**Watch Video Solution**

**107.** How many chambers are present in Amphibian heart?



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**108.** Name the following:

The instrument which is used for counting the R.B.C. in blood



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**109.** Name the following:

The tissue which produces blood corpuscles.



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**110.** Name the following:

The process of formation of blood corpuscles



**Watch Video Solution**

**111.** Name the following:

The specialist in the study of blood



**Watch Video Solution**

**112.** Who discovered circulation of blood?



**Watch Video Solution**

**113.** Name the haemopoietic organs in the human body.



**Watch Video Solution**

**114.** What is fossa ovalis?



**Watch Video Solution**

**115.** What for E.C.G. abbreviation stands?



**Watch Video Solution**

**116.** Name the blood vessel which supply blood to the human heart.



**Watch Video Solution**



**117.** Give the names of the histological layers of heart.



**Watch Video Solution**

**118.** Where is pacemaker of the heart located?



**Watch Video Solution**

**119.** Which portal vein is not present in man?



**Watch Video Solution**

**120.** What is the quantity of blood in a healthy human body?



**Watch Video Solution**

**121.** Write duration of lubb and dub.



**Watch Video Solution**

**122.** Name the disorder caused due to rise in level of cholesterol in the body.



**Watch Video Solution**

**123.** List the functions of circulatory system or blood.



**Watch Video Solution**

**124.** Write the differences between blood and haemolymph.



**Watch Video Solution**

**125.** Differentiate arteries and veins.



**Watch Video Solution**

**126.** Who discovered circulation of blood?  
Briefly give an account of circulation of blood

with reference to single circulation and double circulation.



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**127.** Give a brief account of human heart.



**Watch Video Solution**

**128.** Briefly explain cardiac cycle.



**Watch Video Solution**

**129.** Explain valves of heart.



**Watch Video Solution**

**130.** Differentiate pulmonary circulation and systemic circulation.



**Watch Video Solution**

**131.** What are the causes which result into malfunctioning of cardiac valves?



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**132.** How are defects in the heart detected?



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**133.** Trace the path of a fat molecule from the time it leaves the intestine until it is deposited in the fatty tissue of the body. Name in order, all the structures it passes through on the way.





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**134.** What is meant by heart block?



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**135.** Define pulse rate and heart sound.



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**136.** What is a pace maker? Why is it called life-saving instrument?



**Watch Video Solution**

**137.** Write a note on heart beat.



**Watch Video Solution**

**138.** What is blood pressure? Explain



**Watch Video Solution**

**139.** What do you understand by cardiac output?



**Watch Video Solution**

**140.** Describe hepatic portal system.



**Watch Video Solution**

**141.** Why is a mammalian heart referred to as myogenic?



**Watch Video Solution**

**142.** Define a portal vein. Explain the functions of such a vein in our digestive tract.



**Watch Video Solution**

**143.** Describe the condition termed as atherosclerosis. How does it affect the body?



**Watch Video Solution**

**144.** Write a note on angina.



**Watch Video Solution**

**145.** What are hypertension and hypotension?



**Watch Video Solution**

**146.** What do you understand by heart failure and heart attack?



**Watch Video Solution**

**147.** What is blood? Describe its components.



**Watch Video Solution**

**148.** Draw the structure of human heart.



**Watch Video Solution**

**149.** Describe the conducting system of human heart.



**Watch Video Solution**

**150.** What is SA node? Where is it located?  
What is its function?



**Watch Video Solution**

**151.** Draw diagram to show the condition in human heart.



**Watch Video Solution**

**152.** Show graphically the double circulation.



**Watch Video Solution**

**153.** Why does the atrial systole normally precede the ventricular systole?





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**154.** Why is the S-A node called pace-maker of the heart?



[Watch Video Solution](#)

**155.** Why does the ventricle relax as a closed chamber in the early phase of its diastole?



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**156.** Why is there no mixing of deoxygenated and oxygenated bloods in the human heart normally?



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**157.** Why can you palpate the pulse on an artery in each heart beat?



**Watch Video Solution**

**158.** How is blood returned in veins?



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**159.** Give the causes for the following :

Heart sounds



[Watch Video Solution](#)

**160.** Give the causes for the following :

Arterial pulse



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**161.** What is lymphatic system? Discuss its importance.



**Watch Video Solution**

**162.** What is artificial pacemaker?



**Watch Video Solution**

**163.** Differentiate the following:

Artial systole and Ventricular systole





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**164.** Differentiate the following:

Systolic pressure and Diastolic pressure



[Watch Video Solution](#)

**165.** Differentiate the following:

Lub and dubb.



[Watch Video Solution](#)

**166.** Why does the lymph contain much less proteins than plasma?



**Watch Video Solution**

**167.** Why is the AV bundle essential for the conduction of cardiac impulses?



**Watch Video Solution**

**168.** Why does the ventricle contract as a closed chamber in the early phase of the

ystole?



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**169.** Why is the closed circulatory system more efficient than the open system?



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## Exercise

**1.** Define erythrocytes and leucocytes.



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2. Write the differences between :

P-wave and T-wave.



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3. Name the vascular connection that exists between the digestive tract and liver.



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4. What is the consequence if blood does not coagulate?



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5. Name the haemopoietic organs in the human body.



**Watch Video Solution**



6. The walls of ventricles are much thicker than atria. Explain.



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7. Briefly describe erythroblastosis fetalis.



[Watch Video Solution](#)

8. Explain the functional significance of lymphatic system.



**Watch Video Solution**

**9. Differentiate between**

Open and closed circulatory system



**Watch Video Solution**

**10. Describe the conducting system of human heart.**



**Watch Video Solution**

**11. Explain the following**

Heart sounds



**Watch Video Solution**

**12. Explain the following**

Blood pressure.



**Watch Video Solution**

**13.** What is ECG? What are different phases?  
How is it useful in study of working of human heart?



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**14.** Describe the Rh-incompatibility.



**Watch Video Solution**

**15.** Draw the structure of human heart.



**Watch Video Solution**