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**CBSE TEST PAPER-04**  
**CLASS - XI BIOLOGY**  
**(Body fluids and circulation)**

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**General Instruction:**

- All questions are compulsory.
  - Question No. 1 to 3 carry one marks each. Question No. 4 to 6 carry two marks each. Question No. 7 and 8 carry three marks each. Question No. 9 carry five marks.
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1. Which of the four chambers of the human heart has the thickest muscular wall?
2. Where are RBCs formed from in an adult human?
3. What is ECG technique?
4. Distinguish between mitral and tricuspid value?
5. Why does the fish heart pump only deoxygenated blood?
6. How is heart failure different from heart attack?
7. What is cardiac cycle?
8. Differentiate between right ventricle and left ventricle.
9. Describe the structure of human heart.

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**[ANSWERS]**

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Ans 01. Left ventricle.

Ans 02. RBCS are formed from the bone marrow.

Ans 03. It is a technique to record and photograph the various electric cal changes in the working of the heart.

Ans 04.

	Mitral Value	Tricuspid value
1.	It is called bicuspid value	It lies in the region of right atrioventricular aperture.
2.	All the two flaps are of almost equal size.	All the three flaps are different in size.
3.	There are two flaps in this flap.	There are three flaps in this flap.
4.	Check back flow of oxygenated blood into left auricle.	Check back flow of the deoxygenated blood into right auricle.

Ans 05. 1) Atrium receives deoxygenated blood from all parts of the body.

2) It is pumped into the ventricle from where it is pumped to the gills.

3) The oxygenated blood flows from the gills to various parts.

Ans 06.

	Heart failure	Heart attack
1.	It refers to the state of the heart when the heart is not pumping blood sufficient to meet the need of the body.	It refers to the state where the heart stops beating.

2.	It is often due to congestion of lungs.	It is due to inadequate blood supply to the heart.
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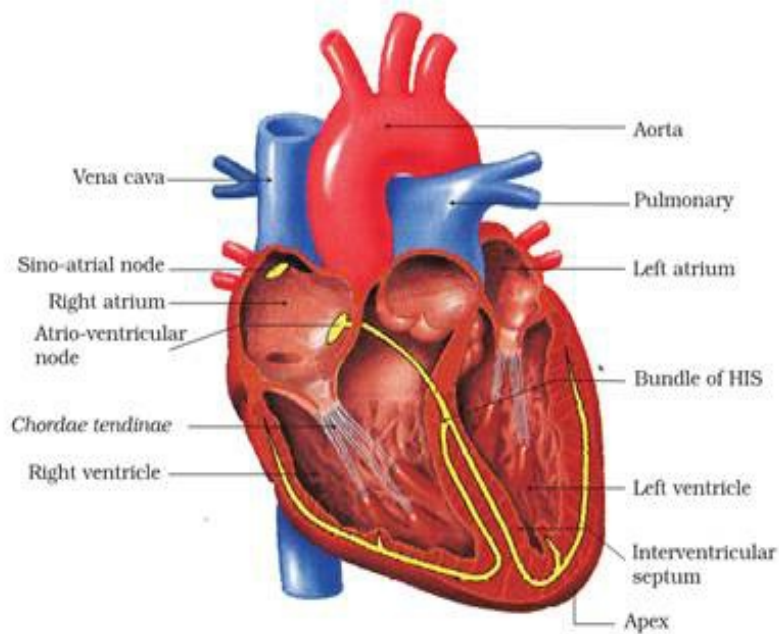
Ans 07. Cardiac cycle – The rhythmic contraction and relaxation of cardiac muscles is known as cardiac cycle or heart beat. It is involuntary (automatic). The contraction and relaxation of heart muscles are called systole and diastole respectively. One complete cardiac cycle occurs in 0.8 sec. Three stages of cardiac cycle are-

1) arterial systole 2) ventricular systole 3) Joint diastole.

Ans 08.

	Right ventricle	Left ventricle
1.	Right ventricle is smaller than the left ventricle.	Left ventricle is comparatively larger than right ventricle.
2.	Moderator band present in it.	Moderator band is lacking in it.
3.	Columnae carnae thicker but less intricate.	Columnae carnae narrower but more intricate.
4.	Receives and pushes deoxygenated blood.	Receives and pumps oxygenated blood.
5.	Crescent shaped.	Biconvex in shape.
6.	The wall of right ventricle is thinner than left ventricle.	The wall of it is thicker than right ventricle.

Ans 09. The heart is a muscular organ situated in thoracic cavity which lies above the diaphragm between the two lungs. It is situated almost in the middle of the chest tilted at its apex to the left. It is enclosed in a double walled membranous sac, the pericardium fitted with pericardial fluid. The heart continuous working without stopping throughout the life of an individual. The heart of an average person at rest under normal circumstances beats. 70 to 80 times in a minute when it contracts its forces and pumps the blood into arteries which supply the blood to body organs. In man and other mammals heart is four chambered structure divisible into two halves right and left.



**Figure 18.2** Section of a human heart

The right and left halves of the heart are completely separated by septa. Each half has an upper chamber called the auricle and the lower chamber called the ventricle. Each auricle opens into the ventricle of its one side through an auriculo-ventricular aperture. The two apertures are guarded by valves which open only into the ventricle and prevent the back flow of the blood. The mitral valve or bicuspid valve having two flaps is present at the AV opening on the left side and the tricuspid valve (with three flaps) on the right side of the heart.

The left ventricle is provided with tendinous cords called chordae tendinae and papillary muscle which prevent the valves from being pushed into auricles when the ventricles contract. The starting point of the aorta at left ventricle there is another set of semilunar valves.