## **Body Fluids and Circulation**

**1. Assertion (A):** If all external nerve supplies to a human heart are cut there will be no effect on the heart beat.

**Reason (R):** Human heart is a myogenic heart.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false
- **2. Assertion (A):** Lymph is the filtered blood from capillaries, which is rich in oxygen, but devoid of RBC.

**Reason (R):** RBC can filter out due to small diameters of fenestra of capillary, but  $O_2$  can not do so.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false
- **3. Assertion (A):** In joint diastole, all the four chamber of heart are in relaxed state.

**Reason (R):** The tricuspid and bicuspid valves are open and the semilunar valves are closed at this stage.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false
- **4. Assertion (A):** The pause between the end of the second sound and the beginning of the first sound coincides with ventricular diastole.

**Reason (R):** The second sound (DUPP) is created by the closure of the semilunar valve.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false

**5. Assertion (A):** Portal system consists of veins which start from capillaries and end into capillaries.

**Reason (R):** The hepatic portal vein carries deoxygenated blood from intestine to liver before it is delivered to the systemic circulation.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false
- **6. Assertion (A):** Atherosclerosis affects the vessels that supply blood to the heart muscle.

**Reason (R):** It is caused by deposits of calcium, fat, cholesterol and fibrous tissue which makes the lumen of arteries narrower.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false
- **7. Assertion (A):** In open circulatory system blood is pumped by heart passes through large vessels into open spaces or body cavities called sinuses.

**Reason (R):** This distribution of blood to different organs, is well regulated.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false
- **8. Assertion (A):** In fishes single circulation occur.

**Reason (R):** fishes have a 2-chambered heart with an atrium and a ventricle.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false







Assertion (A): Myocardial infarction
 often results from a sudden decrease
 in coronary blood supply resulting in
 decreased oxygen supply.

**Reason (R):** The portion of myocardium without oxygen supply dies with in few minutes and then referred to as an infarct or myocardial infarction.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false
- **10 Assertion (A):** The sino-atrial node (SAN) is called the pacemaker.

**Reason (R):** SAN is responsible for initiating and maintaining the rhythmic contractile activity of the heart.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false
- **11. Assertion (A):** The opening between the right atrium and the right ventricle is guarded by a bicuspid or mitral valve.

**Reason (R):** The valves in the heart allows the flow of blood only in one direction.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false

12. Assertion (A): Neural signals through the sympathetic nerves can increase the rate of heart beat, the strength of ventricular contraction and thereby the cardiac output.

**Reason (R):** Adrenal medullary hormones can increase the cardiac output.

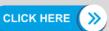
- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false
- **13. Assertion (A):** First heart sound (LUBB) is produced at the beginning of ventricular systole stage.

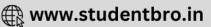
**Reason (R):** During ventricular systole semilunar valves are closed.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false
- **14. Assertion (A):** Open circulatory system is considered to be more advantageous than the closed circulatory system.

**Reason (R):** Open circulatory system is present in arthropods and molluscs, two of the most successful animal phyla.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false





**15. Assertion (A):** The cardiac output of an athlete will be much higher than that of an ordinary man.

**Reason (R):** The body has the ability to alter the stroke volume as well as the heart rate and thereby the cardiac output.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false
- **16. Assertion (A):** Any deviation from the normal shape of ECG indicates a possible abnormality or disease.

**Reason (R):** The ECGs obtained from different individuals have roughly the same shape for a given lead configuration.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false

**17. Assertion (A):** The human heart is called as myogenic.

**Reason (R):** The human heart is made up of cardiac muscles.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false
- **18. Assertion (A):** Heart failure is sometimes called congestive heart failure.

**Reason (R):** Heart failure means the state of heart when it is not pumping blood effectively enough to meet the needs of the body.

- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false





**Directions:** In the following questions, a statement of assertion is followed by a statement of reason.

Mark the correct choice as:

- (a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
- (b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
- (c) If Assertion is true but Reason is false.
- (d) If both Assertion and Reason are false.
- **19. Assertion :** WBCs accumulate at the site of wounds by diapedesis.

**Reason:** It is the squezing of leucocytes from the endothelium.

**20. Assertion:** Fibrins are produced by the conversion of inactive fibrinogens in the plasma, in the presence of enzyme thrombin.

**Reason:** Plasma without fibrinogen and blood corpuscles is called serum.

21. **Assertion :** Prothrombinase enzyme act as antiheparin.

**Reason:** Heparin prevent coagulation of blood in blood vessels.

22. **Assertion**: Blood is coloured in the insects.

**Reason:** Insect blood has no role in O2 transport.

23. **Assertion:** When there is a fall in the blood pressure due to loss of blood volume, this is compensated by vasoconstriction of veins.

**Reason:** Veins hold the extra amount of blood which can be shifted to the arteries as required.

24. **Assertion:** Open circulatory system is more efficient than closed circulatory system.

**Reason:** In closed circulatory system rather than in open circulatory system, the blood flow is slow.

**25. Assertion:** Left atrium possesses the thickest muscles.

**Reason:** Left atrium receives blood from the lungs.

**26. Assertion:** In the human heart, there is no mixing of oxygenated and deoxygenated blood.

**Reason:** Presence of valves in the heart allows the movement of blood in one direction only.

**27. Assertion :** Blood pressure is arterial blood pressure.

**Reason:** It is measured by sphygmomanometer.

28. Assertion: Smaller the organism higher is the rate of metabolism per gram weight.

Reason: The heart rate of a six month old baby is much higher than that of an old person.

29. **Assertion:** Sino-atrial node (SAN) is also known as the pacemaker.

**Reason:** The maximum number of action potentials is generated by SAN and is responsible to initiate and maintain the rhythmic contractions of the heart.

30. **Assertion:** When a person is performing normal work. On an average, his heart beat is 72-75 heart beats per minute.

**Reason:** One heart beat is completed in 0.8 second.

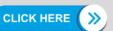
31. **Assertion**: Lub is a heart sound which is produced during each cardiac cycle. **Page 1.** It is associated with the closure of

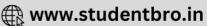
**Reason:** It is associated with the closure of the tricuspid and bicuspid valves.

32. **Assertion :** Atherosclerosis is a disease charaterized by the thickening of arterial walls.

**Reason:** Deposition of cholesterol and triglycerides in the arterial walls causes atherosclerosis.







	ANSWER KEY																	
Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Ans.	1	4	2	2	2	2	3	2	1	1	4	2	3	4	1	2	1	1

19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	32.		
В	C	В	D	Α	D	D	В	В	В	Α	Α	В	a		

