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

9. **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 sqeezing 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 O_2 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.
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.			
B	C	B	D	A	D	D	B	B	B	A	A	B	a			