DISCUSSION QUESTIONS: BLOOD AND TRANSPORT IN ANIMALS

1. A person with blood group O is used to be a universal donor because
- A. lacks antibodies in his serum.
- B. Has both the antigens and antibodies in his blood
- C. Has only antigen A in his red blood cells.
- D. Lacks antigen in his red blood cells.

2. A person with blood group O is used to be a universal donor because
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3. Which one of the following organisms does not use blood to carry oxygen within its body?
- A. Fish
- B. Bee
- C. Snake
- D. An earthworm

4. Hepatic portal vein and hepatic vein? Oxygen is mainly transported in the
- A. plasma
- B. platelets
- C. white blood cells
- D. red blood cells

5. When a donor of blood group A transfused with a recipient of blood group B?
- A. Antibody a reacts with antigen B.
- B. Antigen B reacts with antibody b.
- C. Antibody b reacts with antigen A.
- D. Antigen A reacts with antigen B.

6. Individuals with blood group O are said to be universal donors because they have
- A. no antibodies
- B. no antigens
- C. both antigens A and B.
- D. both antigens and antibodies.

7. A person of blood group A can be transfused with blood of
- A. group A only.
- B. group AB only.
- C. groups A and O.
- D. groups and AB

8. In the process of blood clotting, thrombin acts as an enzyme to bring about conversion of
- A. Fibrinogen to fibrin.
- B. Fibrin to fibrinogen
- C. Prothrombin to thrombokinase.
- D. Thrombokinase to prothrombin.

9. Which one of the following cells could have their functions adversely affected by the AIDS virus?
- A. Erythocytes
- B. Blood platelets

C. Leucocytes
D. Nerve cells.

10. Which one of the blood groups will not agglutinate with any blood serum when mixed?

A. O
B. A
C. AB
D. B

11. Decrease in the number of mammalian red blood cells could reduce the ability of the blood to

A. Clot.
B. Transport oxygen
C. Destroy harmful bacteria.
D. Distribute heat.

12. Which of the following is the best description of the term double circulation in a mammal?

A. Blood flows into the two lungs and then into the body.
B. Blood passes through two chambers of the heart.
C. Blood passes through the heart twice in one circulation.
D. Blood first through arteries and then through veins.

13. A sample of blood from the hepatic portal vein contains

A. fats
B. proteins
C. high concentration of urea.
D. high concentration of products of digestion.

14. Individuals with blood group AB are said to be universal recipients because they have

A. no antigens
B. no antibodies.
C. both antigens and antibodies.
D. antibodies a and b.

15. Which of the following is true about arteries? They

A. carry blood away from the heart.
B. carry deoxygenated blood.
C. carry oxygenetaed blood.
D. possess valves along their length.

16. When blood passes from the lungs to the kidney it has to go through the

A. pulmonary artery, tricuspid valve and aorta.
B. pulmonary vein, bicuspid valve and aorta.
C. anterior venacava, tricuspid valve and aorta.
D. posterior venacava, biscupid valve and aorta.

17. Which one of the following is not transported in blood?

A. Amylase
B. Urea
C. Insulin
D. Sodium chloride

18. Which one of the following events does not occur following the contraction of the ventricle in mammalian heat?

A. Blood flows from ventricles into arteries.
B. The blood pressure increases in the aorta.
C. Atrio-ventricular valves open.
D. Arterial valves open.

19. An unknown sample of blood was found to agglutinate with blood of group AB, but not with blood of O. What was the blood group of the unknown sample?

A. O
B. AB
C. A
D. B

20. In the human heart, the mixing of oxygenated and de-oxygenated blood is Prevented by the

A. Septum
B. Bicuspid
C. Tricuspid valve.
D. Semilunar valve

21. Which of the following blood vessels transport blood most rich in nutrients?

A. Pulmonary artery
B. Hepatic portal vein
C. Mesentric artery
D. Renal vein

22. The blood serum of a universal donor contains

A. Antigens A
B. Antigens B.
C. Neither antigens A nor B
D. Both antigens A and B.

23. Phagocytosis is the process whereby white blood cells

A. Ingest bacteria.
B. cause the bacteria to stick together.
C. dissolve the outer coarta of invading bacteria.
D. neutralize bacteria.

24. The following are characteristic of blood vessels.
(i) presence of valves.
(ii) thick walls.
(iii) wide lumen
(iv) elastic walls.
Which of the characteristics belong to veins?

A. i and ii B. i and iii C. i and iii D. ii and iv

25. The blood constituents that help in the formation of blood clot at the site of an injury are

A. platelets and erythrocytes.
B. hormone and plasma.
C. platelets and leucocytes.

D. platelets and fibrinogen.

26. Blood flows in the pulmonary artery at a lower pressure than in aorta because in the pulmonary circulation.

A. blood travels a shorter distance.
B. the right ventricle has thinner walls.
C. the vessel carrying blood is smaller.
D. fewer organs are supplied.

27. Which one of the following reactions is likely to occur when a donor of blood group A gives blood to a recipient of blood group B?

A. Antibodies a react with antigens B.
B. Antigens B react with antibodies b.
C. Antibodies b react with antigens A.
D. Antigens A react with antigens B.

28. Which one of the following blood vessels contains the lowest concentration of urea?

A. Hepatic portal vein.
B. Renal artery.
C. Hepatic vein.
D. Renal vein.

29. Which one of the following is not a function of blood?

A. Regulation of sugar level in the body.
B. Healing of damaged parts of the body.
C. Regulation of body temperature.
D. Transportation of wastes.

30. Which one of the following is true about a person of blood group O?

A. Receives blood from people of all other blood groups.
B. Donates blood to people of all other blood groups.
C. Receives blood from only people of blood groups AB and O.
D. Donates blood to only people of blood group AB.

31. Lack of a nucleus in a red blood cell is advantageous in that it

A. enables the cell to pass through thin epithelium.
B. helps the cell to fight disease-causing organisms.
C. allows the cell to carry a lot of oxygen.
D. enables the cell to carry much dissolved food.

32. Which one of the following is a likely effect of a decrease in the number of platelets in the blood?

A. The blood may not be able to carry enough oxygen.
B. There may be prolonged bleeding in case of an injury.
C. The body may not be able to fight disease.
D. The body may not be able to distribute heat efficiently.

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Section B

34. In humans, the blood circulatory and lymphatic systems transport body fluids.
(a) Outline the functions of the lymphatic system.
(b) How is the lymphatic system different from the blood circulatory system
(c) Explain the changes that occur in the composition of blood as it passes through the capillaries of the following parts of the body.

(i) lungs
(ii) liver
(iii) kidneys

35. (a) Name the constituents of the mammalian blood.
(b) Give three structural differences between an artery and a vein.
(c) What are the differences in blood content between the blood carried by hepartic portal vein and hepatic vein
35. (a) Name the main artery and vein which serve the parts of the body listed below.
Lungs
Liver
Kidney
Gut
Gonads
(b) Why is it an advantage for blood to pass through the heart twice in order to circulate around the body?
(c) List the substances transported by the blood circulatory system.
(d) Give the importance of transporting each one of the substances named in (c) above
36. (a) distinguish between

(i) Diastole and systole
(ii) Single and double circulation
(iii) open and closed circulatory system
(iv) Systemic and Pulmonary circulation

(b) Why do people living in high altitudes have more red blood cells than those living in low altitude areas
37. Explain how blood clotting occurs in humans
38. Describe the process of blood circulation in the heart
39. How is the heart adapted to its functions?
40. Discuss the importance of blood circulation in the body