The circulatory system, heart and the blood

1. Name **two** tissues that are present in the walls of arteries and veins and give a function of each of these tissues.
2. Veins contain valves whereas arteries do not. What is the function of the valves?
3. To which group of blood cells do lymphocytes belong?
4. Name the artery that supplies the heart muscle with blood.
5. Name two types of lymphocyte and state a role of each.
6. To where does the pulmonary artery carry blood?
7. What is the function of the bicuspid valve?
8. What is the average resting rate of the human heart in beats per minute?
9. Name the liquid part of blood.
10. Name **two** substances that are dissolved in the liquid part of blood.
11. Cardiac muscle may be described as a <u>contractile</u> tissue. Explain the meaning of the underlined term.
12. State **one** function of the liquid part of blood.
13. Which chamber of the heart has the greatest amount of muscle in its wall?
14. Blood contains red cells and white cells. State **one** function for **each** of these.
15. What is the function of a semilunar valve?
16. Name two common blood-grouping systems
17. Where in your dissection did you find the origin of the coronary artery?
18. Name **two** types of lymphocyte and state a role of each when viruses or other microorganisms enter the blood.
19. True or false. The sino-atrial node (pacemaker) is located on the right side of the heart.
20. True or false. A nucleus is absent from human red blood cells.
21. Valves are present in veins. What is their function?
22. The wall of capillaries is only one cell thick. How is this related to their function?
23. Why are valves not needed in arteries?
24. Which has the bigger lumen (cavity), an artery or a vein?
25. State a precise location in the human body where red blood cells are made.
26. Give an account of **three** functions of the lymphatic system.
27. Name the chamber of the heart that receives blood back from the lungs.
28. From which blood vessel is the afferent arteriole derived?

29. Suggest a reason why it is important to know a person's blood group.
30. Is the blood in the Aorta oxygenated or deoxygenated?
31. Give **one** reason why the wall of the left ventricle is thicker than the wall of the right ventricle.
32. What is the role of the bicuspid valve?
33. What is blood plasma? Give a role for blood plasma.
34. Name **two** types of cell found in the blood and give a function for each of them.
35. The ABO blood group system has four blood groups. What are these **four** groups?
36. Name the following blood vessels:
    1. The vessels that carry blood from the aorta to the kidneys.
    2. The vessels that supply the heart's muscle with blood.
37. Name the blood vessel that joins the ileum to the liver.
38. To which main blood vessel does the renal artery link the kidney?
39. The human circulatory system has two circuits. Give the name of each of these circuits. Which of these circuits involves the pumping of blood by the left ventricle?
40. Write a short note on **each** of the following: 1. Pulse, 2. Blood pressure.
41. Comment on the effect of **each** of the following on the circulatory system: 1. Diet, 2. Exercise.
42. Give **two** ways, other than colour, in which a red blood cell differs in structure or composition from a typical body cell such as one in the cheek lining.
43. What is the role of the SA (sinoatrial) and AV (atrioventricular) nodes in the heart?
44. Give the **precise** locations of **both** the SA and the AV nodes in the heart.
45. Name the liquid part of blood.
46. Give two components of this liquid.
47. Name the blood vessel referred to in each of the following cases: (i) The vein connected to the lungs. (ii) The artery connected to the kidneys. (iii) The vein that joins the intestine to the liver.
48. The following questions relate to the human heart.
    (i) Give the precise location of the heart in the human body.
    (ii) What structure(s) protects the heart?
    (iii) Name the upper chambers of the heart.
    (iv) Name the valve between the upper and lower chambers on the left-hand side.
    (v) What is the average resting human heart rate?
    (vi) Give two factors which cause an increase in heart rate.

(vii) Name the blood vessels that bring oxygen to the heart muscle.

(viii) Explain why the walls of the lower chambers of the heart are thicker than the walls of the upper chambers.

49. Name the blood vessel that brings oxygenated blood to the liver.
50. Name the cavity of the body in which the heart and lungs are located.
51. State **one** way in which heart muscle differs from other muscles in the body.
52. Name the liquid part of the blood.
53. Different lifestyle factors have an effect on the health of our circulatory system. Name any **two** of these factors.
54. Does the Aorta carry blood towards or away from the heart?
55. Name the chamber found on the lower right hand side of the heart.
56. Why is the wall of one lower chamber of the heart thicker than the wall of the other chamber?
57. Name the arteries that supply the heart wall with blood.
58. What is the role of valves in the heart?
59. The lymphatic system is another series of vessels carrying fluid in the body. Give any **two** functions of the lymphatic system.
60. In the course of your practical studies you found that heart rate and breathing rate increase with exercise. Explain why this is the case.