

Physiological Structure and Life processes

1. Which disease occurs if there is lack of haemoglobin in the blood?

→ Anaemia

(When haemoglobin is low, blood can't carry enough oxygen)

2. Why does blood appear red?

→ Blood has haemoglobin

3. Which of the following is the function of WBC?

a. To Transport hormones in the body.

b. To balance amount of hormones in the body.

c. ~~To Transport hormones in the body.~~

c. ~~To Transport nutrients in the body.~~

d. To fight against microbes

4. What is the pH value of blood?

→ 7.35 - 7.45

5. In which of the following conditions does a person suffer from blood cancer?

a. Decrease in number of RBC's → Anaemia

b. Decrease in number of WBC's → Leukopenia

c. Due to enormous increase in the number of WBC's → Leukemia

d. Decrease in number of platelets. → Thrombocytopenia

6. What is the average weight of the human heart?

- a. 450g
- b. 400g
- c. 600g
- d. 300g

men is 300 grams

women is 250 grams

7. How many chambers are there in human heart?

→ 4

8. What are the main components of human circulatory system?

- a. Heart, lung, blood vessel
- b. Heart, blood, blood vessels
- c. Lung, heart, blood
- d. Heart, liver, lung

9. What is the reason of feeling systolic pressure during the contraction of the left ventricle of the heart?

- a. Exerting more pressure in pulmonary artery
- b. Transmission of pressure induced in the left ventricle of the heart to the aorta
- c. Transmission of pressure induced in the right ventricle of the heart to artery
- d. Both b and c

10. Which of the following is the function of pulmonary artery?
- To supply impure blood to different parts of the body.
 - To supply deoxygenated blood from heart to lungs.
 - To supply pure blood from the left ventricle of the heart to different body parts.
 - To supply pure blood from the left ventricle of the heart to different body parts.

Pulmonary means related to lungs

11. Sita's mother has symptoms like swelling of joints and body ache after consuming red wheat and pulses. Name the disease that Sita's mother is suffering from?

→ Hyperuricemia.

Read meat and pulses are rich in purines
purines break down into uric acid.

so its uric acid/gout/hyperuricema

2. Identify the blood group on the basis of test report shown in the table

answer → A+ve

Antigen	A	B	C	D
Blood clot	seen	not seen	not seen	seen

↓
A group

↓
test if not this gives + or -

so, If B was seen and A not seen → If both

→ A+ B+ AB+

Very short answer questions

13.

14.

13. Write down the major function of blood

→

Blood carries oxygen, nutrients and wastes, fights infections and helps clotting

14. Write any two characteristics of blood.

→ The two characteristics of blood are:-

- Sticky and viscous
- Red in color

15. What is blood made up of?

→ Blood is made up of plasma (55%) and blood cells (45%).

16. Name any two proteins found in plasma.

→ The two proteins found in plasma are:-

1. Albumin
2. Fibrinogen

17. Write down the percentage of plasma and blood cells in blood.

→ Plasma is 55% and blood cells is 45% in blood

18. Write down the major function of red blood cell.



Red blood cells carry oxygen from the lungs to body cells and carbon dioxide from cells to lungs.

19. Name the disease that occurs due to increase in the number of red blood cells in the body.

→ Polycythemia is the disease that occurs due to increase in number of red blood cells in the body.

20. Why is heart considered main organ of blood circulatory system?

→ It is because it pumps blood throughout the body.

21. Why are WBC's are called Soldiers of body?

→ ~~WB~~. It is because they protect the body from diseases and infections.

22. Write down the function of blood related to protection.

→ Fighting infections and clotting are the function of blood related to protection.

23. Write one difference between auricle and ventricle.

→ Auricle receives blood, while ventricle pumps blood out of the heart.

24. What happens when aortic valve in the heart doesn't work?

→ Blood may flow backward or not flow properly, putting extra strain on the heart

25. The heart is considered centre of blood circulatory system, why?

→ It is because heart pumps blood throughout the body.

26. What type of blood group is called B⁺ve blood group?

→ The blood which has B antigen on red blood cells, anti-A antibodies in plasma, and Rh factor present is called B⁺ve blood group.

27. It is very important to check blood group of the patient and that of blood donor, why?

→ To prevent harmful reactions, blood group of patient and donor must match before transfusion.

28. Where is heart located in human body?

→ Heart is located in the middle of chest cavity and between lungs.

29. Write any one difference between pulmonary artery and pulmonary vein.

→ Pulmonary artery carries blood from the heart to the lungs, while pulmonary vein carries blood from lungs to the heart.

30. Why is the wall of ventricle of the heart thicker than that of auricle?

→ It is because ventricle wall pumps blood with more force than auricle.

31. What is heart attack?

→ When sufficient amount of blood isn't received by heart due to some problems then this is called heart attack.

32. What is angiography?

→ Angiography is a test to see blood vessels using x-rays and special dye.

33. What is meant by tachycardia?

→ When heart beats faster than normal then it is tachycardia.

34. Vein have valves, why?

→ Veins have valves to stop blood from flowing backward.

35. What is high blood pressure?

→ When blood flows through arteries with more force than normal then it is high blood pressure.

36. What is hyperuricema?

→ Hyperuricema is a condition when uric acid level in the blood is higher than the normal.

37. Arteries are deep seated in the muscle while veins are superficial. Why?

→ It is because arteries have to be protected and veins to take blood easily.

→ It is because in arteries blood flows with high pressure and in veins blood flows with low pressure.

38. Write any one preventive measure of diabetes.

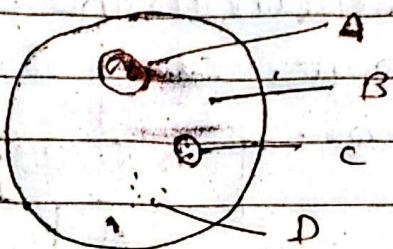
→ One preventive measure of diabetes is :-

→ maintain a healthy diet and exercise regularly.

Long question.

(Important)

62. What is shown in the given diagram? Name the parts A, B, C and D. Also mention function of each.



Solution.

A \rightarrow WBC (biggest in size)

B \rightarrow plasma (55% of total blood)

C \rightarrow RBC

D \rightarrow Platelets (small small dots)

Function of each

A \rightarrow WBC protects the body from infections.

B \rightarrow Plasma carries nutrients, hormones and wastes in the blood.

C \rightarrow RBC carries oxygen from the lungs to all parts of body.

D \rightarrow Platelets helps in blood clotting to stop bleeding.

68
64

Draw or identify all parts of human heart

(see the book and memorize)

Q5. Blood cells that contain in the blood of a normal are shown in chart. Study it and answer the following questions.

Blood cells	number in 1mm ³
A	6,000 - 11,000/mm ³
B	2,00,000 - 4,00,000
C	4,500,000 - 5,00,000

i) name A, B, and C.

A \rightarrow WBC (because it is in thousands and WBC's are only in thousands)

B \rightarrow Platelets (In hundred thousands or lakhs)

C \rightarrow RBC (In millions)

ii. which disease may occur if more number of A is present in blood?

\rightarrow Leukemia may occur if more number of WBC (A) is present in blood.

iii. which disease may occur if there is less number of c in blood?

→ Anaemia disease may occur if there is less number of c in blood.

iv.

If a man cuts his hands and blood doesn't clot, which one is present in less among A, B and C?

→ ~~c~~ (Platelets) will be less among A, B and C.
Platelets help in blood clotting.

59.

In the given figure A and B, which blood vessel carries ^{blood} from lungs to the heart and which has high blood pressure?

write any two differences between blood vessel A and B.

A → Artery (check diagram)
(wider inside)

B → Vein (check diagram)
(small inside)

→ vessel B carries blood from lungs to the heart and vessel A has high blood pressure.

Artery

1. They carry blood away from heart.
2. They are thick walled.

Veins

1. They carry blood from different organs to heart.
2. They are thin walled.

72 Study the given table and answer the following questions

Blood cell	Shape	Nucleus	Life span
A	Irregular	Present	2 weeks
B	Biconcave	not present	120 days
C	Round	not present	2-3 days

a) Identify blood cells A and C.

b)

→ A is WBC (nucleus present, lifespan few weeks)

→ C is platelets (lifespan only few days)

b) Write down major function of blood cells B and C.

→ B (RBC) → To carry oxygen to all body cells.

→ C (Platelets) → To clot the blood in order to prevent excessive bleeding.

c) Where are blood cells A formed and destroyed?

→ It is formed in bone marrow and destroyed in spleen and liver.

d) Name the disease that occurs due to enormous increase in number of blood cells A.

→ Leukemia is the disease that occurs due to enormous increase in number of blood cells A.