Topic 2 - Organization- AQA Biology GCSE

Exam Questions/Mock Exam Questions

Questions For Foundation, Higher, and Triple Science (scroll down for questions for higher and triple science only):
(It would still be recommended to answer the foundation tier questions for triple science and higher tier to ensure you have good understanding).

Q1. The human body contains different types of tissues.

(a) What is a tissue?

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(1)

(b) Name one example of a tissue in the stomach.

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(1)

[Total: 2 marks]

Q2. Enzymes help break down food in the digestive system.

(a) What type of molecule is an enzyme?

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(1)

(b) What happens to enzymes at high temperatures?

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(2)

[Total: 3 marks]

Q3. The small intestine is adapted for absorption.

(a) Name one adaptation of the small intestine.

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(1)

(b) Explain how this adaptation helps absorption.

(2)

[Total: 3 marks]

Q4. The heart pumps blood around the body.

(a) Name the blood vessels that carry blood **away** from the heart.

(1)

(b) Name the blood vessels that carry blood **to** the heart.

(1)

[Total: 2 marks]

Q5. The circulatory system includes the heart and blood vessels.

(a) What is the function of the heart?

(1)

(b) What is the function of red blood cells?

(1)

(c) Name one other component of blood and its function.

(2)

[Total: 4 marks]

Q6. The human heart has four chambers.

(a) Name the two chambers at the top of the heart.

_____

(1)

(b) Name the two chambers at the bottom of the heart.

_____

(1)

(c) What is the function of valves in the heart?

_____

_____

(2)

[Total: 4 marks]

Q7. Coronary heart disease can affect health.

(a) What causes coronary heart disease?

_____

(1)

(b) Name one treatment for coronary heart disease.

_____

(1)

[Total: 2 marks]

Q8. A student is studying enzymes.

(a) What is the role of amylase in digestion?

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(1)

(b) Where is amylase produced in the body? Give one place.

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(1)

[Total: 2 marks]

Q9. Bile is important in digestion.

(a) State the function of bile.

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(1)

(b) Name the organ that produces bile.

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(1)

[Total: 2 marks]

Q10. Different organs work together in the body.

(a) What is an organ system?

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(1)

(b) Give an example of an organ system in humans.

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(1)

[Total: 2 marks]

Q11. Enzymes have an optimum temperature.

(a) What does "optimum temperature" mean for an enzyme?

(1)

(b) What happens if the temperature gets too high?

(2)

[Total: 3 marks]

Q12. Blood is made of different components.

(a) What is the main function of white blood cells?

(1)

(b) Platelets are also found in blood. What is their role?

(1)

[Total: 2 marks]

Q13. The lungs are part of the respiratory system.

(a) Name the tiny air sacs in the lungs where gas exchange happens.

(1)

(b) How are these air sacs adapted for efficient gas exchange?

(2)

[Total: 3 marks]

Q14. A student investigates the effect of pH on enzyme activity.

(a) What is the independent variable in this experiment?

(1)

(b) Name one variable that should be kept the same.

(1)

[Total: 2 marks]

Q15. Different tissues carry out different jobs. (a) Name one tissue found in the leaf of a plant.

(1)

(b) What is the function of xylem tissue?

(1)

[Total: 2 marks]

Q16. Students draw a model of blood vessels. (a) Name the three types of blood vessels.

(3)

(b) Which blood vessel has thick muscular walls?

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(1)

[Total: 4 marks]

Q17. The digestive system is an organ system. (a) State the function of the stomach.

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(1)

(b) Describe the role of the large intestine.

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(2)

[Total: 3 marks]

Higher Tier Questions

Q18. The diagram shows the human heart.

(a) Name the blood vessel that brings oxygenated blood into the heart.

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(1)

(b) Name the chamber of the heart that pumps blood to the body.

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(1)

(c) Explain how the structure of the heart ensures blood flows in one direction.

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(2)
[Total: 4 marks]

Q19. Enzymes are important in digestion.

(a) What is the function of enzymes in the digestive system?

(2)

(b) Name the enzyme that breaks down starch and state where it is produced.

(2)

(c) Explain why enzymes become denatured at high temperatures.

(2)

[Total: 6 marks]

Q20. A student investigates the effect of pH on the activity of amylase.

(a) Name the product of starch digestion.

(1)

(b) Describe how the student could measure how much starch is broken down.

(2)

(c) The student uses a water bath. Explain why.

(2)

[Total: 5 marks]

Q21. The lungs are adapted for gas exchange.

(a) Describe two ways the alveoli are adapted for gas exchange.

(2)

(b) Explain why oxygen moves from the alveoli into the blood.

(2)

[Total: 4 marks]

Q22. The circulatory system is a double circulatory system.

(a) Explain what is meant by a double circulatory system.

(2)

(b) Give one advantage of a double circulatory system.

(1)

[Total: 3 marks]

Q23. Blood contains different components.

(a) Name the component of blood that carries oxygen.

_____

(1)

(b) Describe how red blood cells are adapted to carry oxygen.

_____

_____

(2)

(c) What is the function of platelets?

(1)

[Total: 4 marks]

_____

Q24. Coronary heart disease is caused by a build-up of fatty deposits.

(a) State one risk factor for coronary heart disease.

_____

(1)

(b) Describe how stents help treat coronary heart disease.

_____

_____

(2)

(c) Give one disadvantage of using stents.

_____

(1)

[Total: 4 marks]

Q25. A scientist tests different solutions to treat blocked arteries.

(a) Explain the difference between a stent and a statin.

(2)

(b) Suggest why statins must be taken regularly.

(2)

[Total: 4 marks]

Q26. The diagram shows a leaf.

(a) Name the tissue that transports water in a plant.

(1)

(b) State the function of the phloem.

(1)

(c) Explain how water moves through the xylem to the leaves.

(2)

[Total: 4 marks]

Q27. Transpiration is the loss of water vapour from plant leaves.

(a) Name the part of the leaf where most transpiration happens.

(1)

(b) List two environmental factors that increase the rate of transpiration.

(2)

(c) Describe how the guard cells control transpiration.

(2)

[Total: 5 marks]

Q28. The digestive system contains several organs.

(a) What is the function of bile in digestion?

(2)

(b) Where is bile produced and stored?

(2)

[Total: 4 marks]

Q29. A person eats food that is high in fat.

(a) Which enzyme breaks down fat?

(1)

(b) What are the products of fat digestion?

(2)

[Total: 3 marks]

Q30. A student investigates enzyme activity using different temperatures.

(a) Describe what happens to enzyme activity as temperature increases up to the optimum.

(2)

(b) Explain why enzyme activity decreases at high temperatures.

(2)

[Total: 4 marks]

Q31. A student investigates heart rate before and after exercise.

(a) Suggest why heart rate increases during exercise.

(2)

(b) Describe how you could measure heart rate safely in this experiment.

(2)

[Total: 4 marks]

Triple Science Tier

Q32. The diagram shows the structure of the human heart.

(a) Describe how the structure of the left ventricle is related to its function.

(3)

(b) Explain why the valves in the heart are important for circulation.

(3)

[Total: 6 marks]

Q33. Enzymes are biological catalysts.

(a) Describe the lock-and-key model of enzyme action.

(3)

(b) Explain how changes in pH affect enzyme activity.

(3)

[Total: 6 marks]

Q34. The small intestine is adapted for absorption.

(a) Describe two structural features of the small intestine that increase the rate of absorption.

(4)

(b) Explain how these features help the absorption of nutrients.

(4)

[Total: 8 marks]

Q35. Blood vessels carry blood around the body.

(a) Compare the structure of arteries and veins.

(4)

(b) Explain how the structure of capillaries is related to their function.

(4)

[Total: 8 marks]

Q36. A scientist investigates the effect of temperature on enzyme activity.

(a) Describe how temperature affects the rate of enzyme activity up to the optimum temperature.

(3)

(b) Explain what happens to the enzyme structure at temperatures above the optimum.

(3)

[Total: 6 marks]

Q37. The process of transpiration in plants.

(a) Describe the pathway of water through a plant from the roots to the leaves.

(3)

(b) Explain how environmental factors influence the rate of transpiration.

(3)

[Total: 6 marks]

Q38. Coronary heart disease can be treated with stents or statins.

(a) Describe how stents help patients with coronary heart disease.

(3)

(b) Explain the advantages and disadvantages of statins compared to stents.

(4)

[Total: 7 marks]

Q39. The role of bile in digestion.

(a) Describe how bile helps in the digestion of fats.

(3)

(b) Explain why bile is alkaline and how this affects enzymes in the small intestine.

(3)

[Total: 6 marks]

Q40. The structure and function of phloem.

(a) Describe the structure of the phloem tissue.

(3)

(b) Explain how translocation occurs in the phloem.

(3)

[Total: 6 marks]

Q41. The immune system protects the body from pathogens.

(a) Describe the role of white blood cells in immunity.

(3)

(b) Explain how vaccines provide immunity.

(3)

[Total: 6 marks]

Q42. The effect of enzymes in the digestive system.

(a) Name the enzyme that digests proteins and where it is produced.

(2)

(b) Describe the products of protein digestion and how they are absorbed.

(4)

[Total: 6 marks]

Q43. The function of arteries, veins, and capillaries.

(a) Describe how the structure of veins differs from arteries.

(3)

(b) Explain how capillaries facilitate exchange between blood and tissues.

(3)

[Total: 6 marks]

Q44. The process of gas exchange in the lungs.

(a) Describe how alveoli are adapted for efficient gas exchange.

(4)

(b) Explain how oxygen and carbon dioxide move between alveoli and blood.

(4)

[Total: 8 marks]

Q45. Investigating heart rate during exercise.

(a) Describe a method to measure heart rate changes during exercise.

(3)

(b) Explain why heart rate increases during physical activity.

(3)

[Total: 6 marks]

Q46. Plant water transport.

(a) Describe the role of root hair cells in water absorption.

(3)

(b) Explain the cohesion-tension theory of water movement in the xylem.

(3)

[Total: 6 marks]

Q47. Digestive enzymes and their specific substrates.

(a) Match the following enzymes with their substrates: amylase, protease, lipase.

(3)

(b) Explain why enzymes are specific to substrates.

(3)

[Total: 6 marks]