Gas Exchange Systems (KS3)

Section A – Recall (1–2 marks each)

Q1. (1 mark)
What is the main function of the gas exchange system?

Q2. (1 mark)
Name the structure where gas exchange takes place in the lungs.

Q3. (1 mark)
What gas do humans take in during breathing?

Q4. (1 mark)
What gas do humans release during breathing?

Q5. (2 marks)
State TWO structures in the human gas exchange system.

Q6. (2 marks)
State TWO adaptations of the alveoli for gas exchange.

Q7. (2 marks)
State TWO factors that can affect lung function.

Q8. (2 marks)
Name TWO parts of a plant involved in gas exchange.

Section B – Understanding (3 marks each)

Q9. (3 marks)
Explain how oxygen enters the blood in the lungs.

Q10. (3 marks)
Explain how the diaphragm helps breathing in.

Q11. (3 marks)
Explain how the diaphragm helps breathing out.

Q12. (3 marks)
Explain how stomata help plants exchange gases.

Q13. (3 marks)
Explain how smoking affects the gas exchange system.

Q14. (3 marks)
A student at *Learntit* has asthma. Explain how asthma affects breathing.

Section C – Application (4 marks each)

Q15. (4 marks)
A student measures lung volume before and after exercise.
Explain why lung volume changes after exercise.

Q16. (4 marks)
A person with asthma finds it difficult to breathe.
Explain what is happening in their gas exchange system.

Q17. (4 marks)
Explain how a pressure change in the lungs causes air to move in and out.

Section D – Extended Response (6 marks each)

Q18. (6 marks)
Explain the structure and function of the human gas exchange system.

Your answer should include:

- trachea
- bronchi
- bronchioles
- alveoli
- blood capillaries
- adaptations for gas exchange

Q19. (6 marks)
Explain how breathing works.

Your answer should include:

- diaphragm
- rib cage
- volume and pressure changes
- inhalation and exhalation
- movement of air

Q20. (6 marks)
Explain how exercise, asthma and smoking affect the human gas exchange system.

Q21. (6 marks)
Explain how leaves exchange gases and why stomata are important.

Your answer should include:

- stomata
- carbon dioxide
- oxygen
- water loss
- photosynthesis

Total: ____ / 66
Percentage: _____%