ASM TUITION ACADEMY

PHYSICS

YEAR 8

TOPIC: Liquid Pressure and Floating and Sinking

TEST QUESTIONS

TOTAL MARKS: 55

TIME: 45 MINUTES

SECTION A: MULTIPLE-CHOICE QUESTIONS
Q1–Q10: Choose the correct answer. [10 marks]

Q1. How are particles arranged in a liquid?

A. Very far apart
B. Close together, without a fixed pattern
C. In a fixed pattern with no gaps
D. They do not move

Q2. Why are liquids difficult to compress?

A. Their particles have large gaps between them
B. Their particles are mostly touching
C. Their particles are stationary
D. They contain no particles

Q3. What causes pressure in a liquid?

A. Particles exerting forces on the container walls
B. Particles becoming stationary
C. Air escaping from the liquid
D. The container moving

Q4. How does liquid pressure change with depth?

A. It decreases
B. It stays the same
C. It increases
D. It becomes zero

Q5. Which water jet from holes in a container has the greatest force?

A. The top jet
B. The middle jet

C. The bottom jet
D. All jets have equal force

Q6. What is the upward force exerted by a liquid on an object called?

A. Friction
B. Gravity
C. Upthrust
D. Weight

Q7. Why is a ping-pong ball difficult to push underwater?

A. It has a very large weight
B. The upthrust can be greater than its weight
C. It contains no air
D. Water has no pressure

Q8. Which ball is denser, if a wooden ball and a steel ball are the same size?

A. Wooden ball
B. Steel ball
C. Both have the same density
D. Neither has density

Q9. What happens to a solid object made from a material less dense than water?

A. It sinks
B. It floats
C. It dissolves
D. It becomes a liquid

Q10. Why does a steel ball sink in water?

A. It is denser than water
B. It has no weight
C. It is less dense than water
D. Water exerts no upthrust on it

SECTION B: FILL IN THE BLANKS
Q11–Q20: Complete each sentence. [10 marks]

Q11. Liquid particles are very _____ together.

Q12. Liquid particles are always _____ and bumping into each other.

Q13. Liquids can flow over or _____ each other.

Q14. Liquid pressure increases as _____ increases.

Q15. The weight of liquid pushes down on the liquid _____ it.

Q16. Liquids are difficult to _____ because their particles are mostly touching.

Q17. The upward force exerted by a liquid on an object is called _____.

Q18. A ping-pong ball contains _____, so its weight is very small.

Q19. A material that is less dense than water will usually _____ in water.

Q20. A material that is denser than water will usually _____ in water.

SECTION C: SHORT-ANSWER QUESTIONS
Q21–Q29: Answer all questions. [35 marks]

Q21. Describe how the particle model represents a liquid. **[3 marks]**

Q22. Explain why liquid pressure increases with depth. **[4 marks]**

Q23. A container has holes at different heights and is filled with water. Explain why the bottom water jet comes out with the greatest force. **[4 marks]**

Q24. What is upthrust, and what causes it in a liquid? **[4 marks]**

Q25. Explain why a ping-pong ball is difficult to push under water. **[4 marks]**

Q26. Two solid balls of the same size are made of wood and steel. Explain why the wooden ball floats while the steel ball sinks. **[4 marks]**

Q27. State the relationship between the density of a solid material and whether it floats or sinks in water. **[4 marks]**

Q28. Explain how upthrust affects a wooden ball floating in water and a steel ball sinking in water. **[4 marks]**

Q29. Predict what happens when a solid object is placed in water if its material is (a) less dense than water and (b) denser than water. Explain your answer. **[4 marks]**