

Ninth std full physics test

1. Define relative density. What is its unit? 2
2. Draw a labelled diagram to show how transverse waves can be generated in a slinky. 2
3. When an object is immersed in a fluid, name the two forces acting on it. 1
4. On which factor the magnitude of the upward force acting on the object depends? 1
5. When will this object sink? 1
6. Calculate the distance required for echo. During the summer will the distance increase or decrease and why? 2+ 2
7. State Archimedes principle. What is the volume of the liquid displaced by the object in this state? 2+1
8. What is the full form of SONAR? 1
9. State two uses of ultrasound? 2
10. Calculate the percentage variation in kinetic energy of a body when its momentum is doubled? 2
11. Why are the ceilings of concert halls curved? 2
12. Which wave property determines its loudness? 2
13. A student picks up four books from the floor, walks across the room through some distance with books at the same height and then keeps these books at the new place. In which of these sequence of actions , work is said to be done? 2
14. Derive the equation of distance time equation. 3
15. Draw a v-t graph to show non uniform retardation. 1
16. Why are athlete made to fall on a cushioned bed in a high jump athletic event? 2
17. The relative density of a substance is 0.6. what is the density in SI unit? 1
18. Differentiate between
 - a) speed and velocity
 - b) mass and weight
 - c) longitudinal and transverse wave 6
19. why does a ship made of iron floats where a needle made up of iron sink in water? 2
20. which principle of sound is made use of by a stethoscope? 1
21. what is material medium? Why sound can't propagate through vacuum? 2
22. prove that energy is conserved for a freely falling object. 3
23. Name the physical quantity that is obtained by the slope of a
Distance time graph. What is represented when it is parallel to the time axis? 2

24. when a fast moving horse stops suddenly a careless rider falls in the forward direction. Give reason for it. 2
25. what is momentum? What is the unit? If an air filled balloon is filled with air and its mouth untied, air is released from its mouth in the downward direction. Write the other observations made by you. Justify your answer. 3
26. what is echolocation? Represent graphically by two separate diagrams
- two sound waves having the same amplitude but different frequencies
 - two sound waves having the same frequency but different amplitudes 1+ 2
27. when a carpet is beaten with a stick, dust comes out of it. Explain. 2
28. If angle between incident sound wave and reflected sound wave is 124 degree, the what is the angle of reflection? 1
29. show the relationship between commercial and SI unit? 2
30. two balls of different masses are thrown vertically upwards with same velocity. Which one them will rise to the greater height? 1
31. State universal law of gravitation. If two masses are doubles then what will be the new force? 2+2
32. Why helicopters have two propellers? 2
33. If the density of iron is 8500kg/m^3 then find the relative density.
34. Name the physical quantity associated with number of oscillations per second. Write its SI unit. What effect will be there if time period is increased? 5
35. list the kinds of energy proposed by an eagle flying in air. State the energy transformation taking place to keep it airborne. Describe the transformation of energy in the following also. a) hydroelectric power plant b) freely falling body 2
36. A circular boat of radius 2m is floating in a river. The boatman throws a packet in water so that the boat rises by 1 cm in water. Find the mass of the packet. 2
37. Write down the equation of conservation of momentum. 2
38. Why will a sheet of paper fall slower than one that is crumpled into a ball? 2
39. Identical packets are dropped from two aeroplanes, one over the equator and the other over the north pole , both from the height H assuming all conditions are identical, will those packets take same time to reach the surface of earth? 2
40. prove that g doesn't depend on mass of the object. 2
41. What is universal constant? What is the value and unit? 3