

6. Plasmolysis in a plant cell is defined as-
- Breakdown (lysis) of plasma membrane in hypertonic medium.
 - Shrinkage of cytoplasm in hypertonic medium
 - Shrinkage of nucleoplasm
 - None of the above.
7. The numerical ratio of displacement to distance for a moving object is
- always less than 1
 - always equal to 1
 - always more than 1
 - equal or less than 1
8. The distance travelled and displacement covered by tip of a seconds' hand of radius 'r' in a clock after half revolution respectively is:
- $2\pi r$, r
 - zero, $2r$
 - πr , $2r$
 - $2r$, zero
9. Which of the following statement is correct regarding velocity and speed of a moving body?
- velocity of a moving body is always higher than its speed
 - speed of a moving body is always higher than its velocity
 - speed of a moving body is its velocity in a given direction
 - velocity of a moving body is its speed in a given direction

For question numbers 10, 11 and 12, two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select and write the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:

- Both A and R are true, and R is correct explanation of the assertion.
 - Both A and R are true, but R is not the correct explanation of the assertion.
 - A is true, but R is false.
 - A is false, but R is true.
10. ASSERTION-A gas can be easily compressed by applying pressure.
REASON- The inter-particle spaces in the gaseous state are very small, they cannot be decreased by applying pressure.
11. ASSERTION: Displacement of a body may be zero when distance travelled by it is not zero.
REASON: The displacement is the longest distance between initial and final position.
12. ASSERTION: Robert Hooke (1665) observed dead cells for the first time.
REASON: Leeuwenhoek saw living cells in pond water for the first time and proposed cell theory in 1839.

SECTION- B

13. Akash Starts from position A; travels a distance of 5 km towards North, then takes right turn to travel 4 km and then takes left turn to travel 3 km to reach his destination D.
- Find the total distance travelled?
 - What is the resultant displacement? (1+1)
14. (a) When 100 g of sugar is dissolved in 200 mL of water, no change in volume is observed. What characteristic of matter is shown by this observation?
- (b) Substance 'A' can take up the shape of any container, has high compressibility predict the nature of the substance. Write two more properties of this state of matter. (0.5+1.5)

SECTION-C

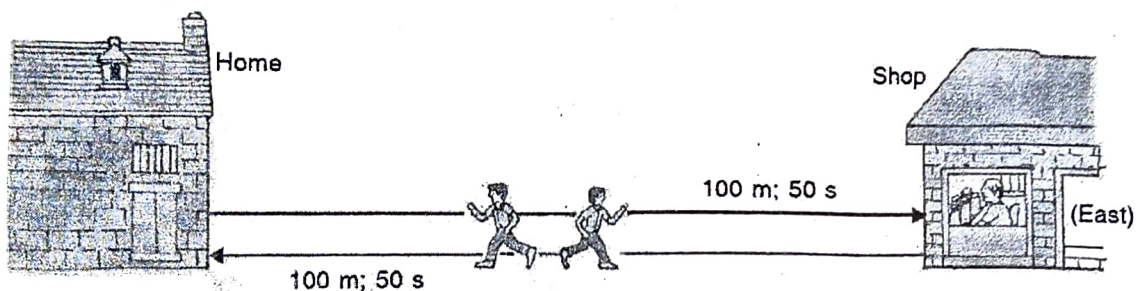
15. (a) Why smell of hot sizzling food reaches us quickly but not of cold ice cream?
(b) "Liquids have no fixed shape", Give reason.
(c) Why does the ice float on water? (1+1+1)
16. State the difference between a Prokaryotic and a Eukaryotic cell with examples. (3)

SECTION-D

17. (a) A car travels 30 km at a uniform speed of 50 km/h and the next 30 km at a uniform speed of 15 km/h. Find its average speed.
(b) What do you mean by non-Uniform motion. Give one example.
(c) Explain with an example that a body can be in motion as well as at rest at same time. (2+1+2)
18. (a) Name the genetic material that exists in bacteria. (1)
(b) Draw the diagram of eukaryotic nucleus. (2)
(c) Do you agree that "A cell is a building unit of an organism". If yes, explain why? (2)

SECTION-E

19. Suppose the boy first runs a distance of 100 metres in 50 seconds in going from his home to the shop in the East direction, and then runs a distance of 100 metres again in 50 seconds in the reverse direction from the shop to reach back home from where he started



- (a) Find the average speed of the boy.
(b) Find the Velocity of the boy.
(c) State any two differences between speed and velocity of a body. (1+1+2)
20. Look at the diagram given below. Jar A contains a red-brown gas whereas jar B contains a colourless gas. The two gas jars are separated by a glass plate placed between them. We observe that the red-brown gas will move from jar A into colourless gas in jar B due to which is red-brown colour will also spread into jar B.

- (a) What name is given to the phenomenon which takes place?
(b) Define the phenomenon taking place in the case given above.
(c) Which two properties of particles of matter are shown in above case?(1+1+2)

