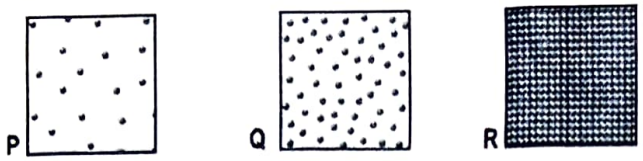
MCQ (NCERT)

Q: 1 **In the figure shown here, P, Q and R represent three different physical states of a substance.**



A direct change from the state represented by R to that represented by P would be _____.

1 evaporation 2 condensation 3 melting 4 sublimation

Q: 2 **Gases are liquified under _____.**

1 high pressure, high temperature
2 high pressure, low temperature
3 low pressure, high temperature
4 low pressure, low temperature

Q: 3 **Sahil poured EQUAL AMOUNTS of water into three containers, made of the same material, as shown in the figure and kept them all out in the hot sun for an entire day. At the end of the day, he measured the amount of water left in each container.**

What CAN Sahil test with this information?

1 whether evaporation depends on the volume of water taken
2 whether evaporation depends on the temperature of the surroundings
3 whether evaporation depends on the material of the container
4 whether evaporation depends on the exposed area of the water

Q: 4 **Shyam is playing with a syringe. He places his finger on the outlet and tries to press the plunger down. He will be able to push the plunger _____.**

1 all the way down
2 not at all
3 very little
4 (none of these - the syringe will break)

Q: 5 **Equal amount of water is taken in the form of liquid water, ice and steam in different containers P, Q and R respectively. In which container will the molecules have the HIGHEST kinetic energy?**

1 P
2 Q
3 R
4 (The molecules in all the three containers will have the same kinetic energy.)

Q: 6 **Which one of the following sentences is TRUE?**

P. All the cells of a whale are much larger than those of a honeybee.
Q. All the cells of the whale and the honeybee are exactly the same size.
R. There are more cells in a whale than in a honey bee.

1 only P 2 only Q 3 only R 4 only P and R

Q: 7 **Which of these cells would contain ALL the genetic information, necessary for the body to function, in their nuclei?**

P - brain cells
Q - nerve cells
R - heart cells
S - liver cells

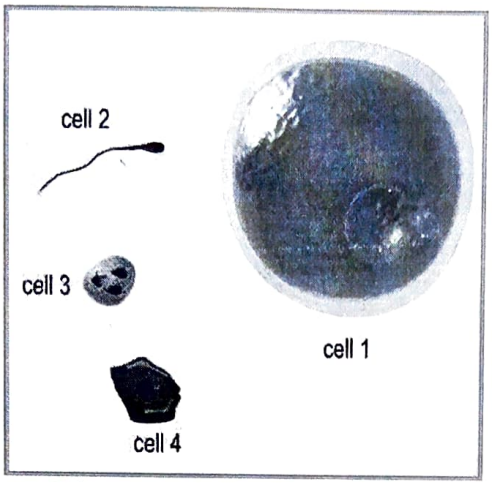
1 only S
2 only R and S
3 only P, R and S
4 all - P, Q, R and S

Q: 8 **Which of the following can lysosomes digest?**

P) the parent cell
Q) old organelles
R) bacteria
S) food

1 only Q and R
2 only R and S
3 only Q, R and S
4 all - P, Q, R and S

Q: 9 **Shown below are representations of some cells. They are all at the same magnification.**



Which of the following statements about these cells is most likely to be true?

1. All the cells perform different functions.
2. The smaller cells come from smaller animals.
3. All the cells come from different species of animals.
4. The bigger cells can move faster than the smaller cells.

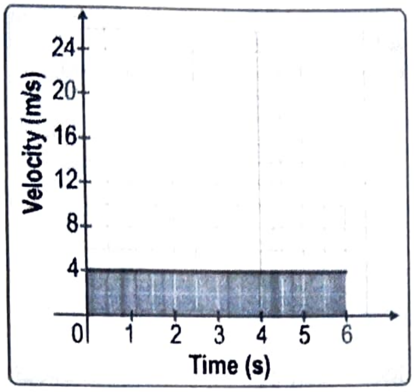
Q: 10 **A car is travelling north. Its speed is recorded for 5 s in the table below.**

Time (s)	Speed (m/s)
1	2
2	4
3	6
4	8
5	10

From the table we can say that the car is moving with a _____.

1. constant speed
2. constant velocity
3. constant acceleration
4. constant speed as well as constant velocity

Q: 11 **What would the shaded area in the graph represent?**



1 distance travelled

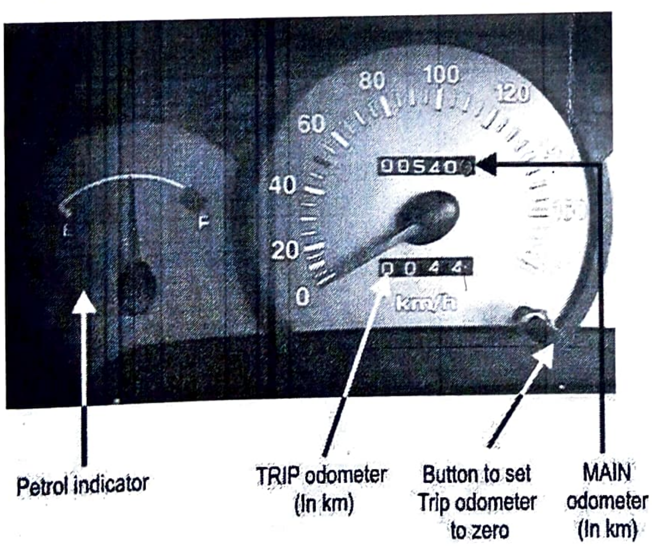
2 total time taken

3 acceleration

4 speed

Q: 12 **Raghav drives from Mumbai to Lonavla and then back to Mumbai by the same route. Before starting from Mumbai, he notes the MAIN odometer reading (5250 km). Before starting from Lonavla, he sets the TRIP odometer to zero.**

On his way back from Lonavla, this is the reading on the panel when he stops for a break.



How many kilometres is he away from Mumbai?

1 44 km

2 62 km

3 106 km

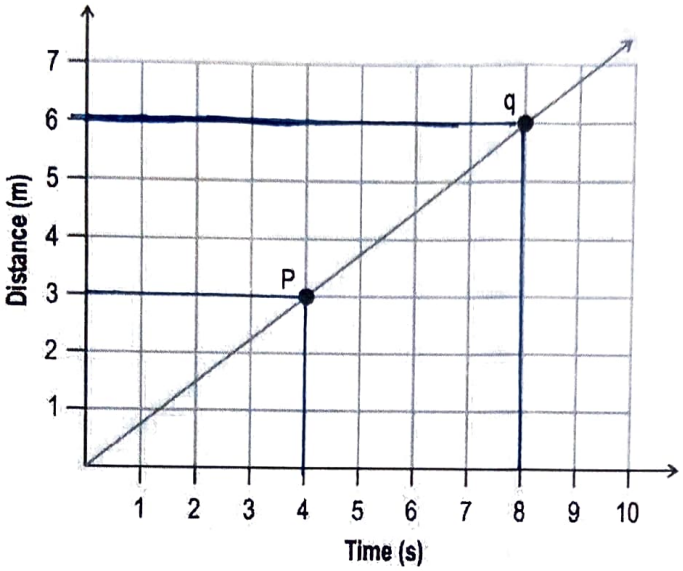
4 150 km

VERY SHORT QUESTIONS(NCERT)

Q: 13 **"In a living organism, the cell is the basic structural and functional unit." Explain.** **[2]**

Q: 14 **(a) What does a distance-time graph represent?** **[2]**

(b) Given below is the distance-time graph of a person walking on a footpath. At what velocity was he travelling between the points p and q?



(c) Name any one type of motion that can be represented on a distance-time graph?

SHORT ANSWER TYPE QUESTIONS(NCERT)

Q: 15 **An inflated balloon left outside on a sunny day bursts. With reference to the kinetic theory of matter, explain why this happens.** **[3]**

Q: 16 **(a) Define the magnitude of displacement for an object in motion.** **[3]**
(b) A car has travelled a distance of 53 km. Its displacement is the same as the distance travelled. Describe the path of its motion.
(c) Can the displacement of a car that has moved a distance of 25 km in 30 minutes be zero? Explain how.

LONG ANSWER TYPE QUESTIONS(NCERT)

$$4\overline{)30}\quad 0.75,\ 28$$

Q: 17 **[5]**

Complete the table comparing characteristics of cells of plants, animals and bacteria. Write "P" to indicate "present" and "N" to indicate "not present" against the number of the blank space.

Characteristic	Plant cells	Animal cells	Bacterial cell
Cell membrane	(1)	*P*	(2)
Cell wall	*P*	*N*	(3)
Cytoplasm	(4)	(5)	(6)
Nuclear membrane	(7)	*P*	(8)
Genes	(9)	*P*	(10)

Q: 18 **[5]**

State whether the statements given below are true or false and give a reason to support your answer.

(a) A mouse's body cells are smaller than an elephant's body cells.
(b) Plant cells have a cell wall instead of a cell membrane.
(c) Protoplasm refers to only the region outside the nucleus of a cell.
(d) All green parts of plants are capable of photosynthesis.
(e) Prokaryotic organisms do not have genetic material.

CASE STUDY BASED QUESTION(NCERT)

Q: 19 **(a) Define the term matter.** **[4]**

(b) What is matter made up of?

(c) Why is the shape of liquids not fixed?

(d) No solid can be compressed. State whether this statement is true or false and give an example to support your answer.

Q: 20 **Pratham travelled from Gaya to Patna in his car. The table below gives the speed at which the car travelled during different parts of the journey.** **[4]**

Distance (km)	0-25	25-60	60-100
Speed (km/h)	50	35	40

Find the average speed of the car for the entire journey.