Ryan Bhatia

Periodic Test - 1

1 The displacement and the distance magnitude will be equal when the object is travelling in a straight line and not going back.

5

i) (a) 9:00

ii) (d) 8km

iii) (a) 15 mins

iv) (d) none of the above

v) (d) none of the above

2 The observation shows that the particles of matter have space between them. The forces of attraction between the water are overcome by the force applied by the diver.

3 ~~Compares~~ Compressibility is the property of being reduced ~~by~~ to a ~~smaller~~ ~~smaller~~ smaller space by the ~~application~~ applying of pressure.

(1)

4 (a) ~~A is true, but R is false~~

(1)

6

i) Genes

ii) Protein synthesis

iii) A - Nucleolus ; B - ~~Chromo~~ Chromatin ; C - Nu membrane ; D - Nucleoplasm

iv) (b) Robert Brown

Section B

7

a) Water is liquid at room temperature because it freezes at 0°c and boils at 100°c Water The ~~post~~ particles of water dont have enough energy to overcome the forces of ~~attra~~ attraction ~~at~~ at room temperature.

b) Iron has a high density and has ~~the~~ high liquidifying and boiling points. Thus, it ~~can~~ can't change it's ~~state~~ at room tempra

8 Endocytosis ~~of~~ only takes place in ani cell because animal cells lack a c wall outside the plasma membrane For endocytosis to occur, substance must be enclosed within a vesicle formed from ~~all~~ of the plasma membrane.

2

2

& Section C

10

(a) The conversion of vapour to solid is known as deposition.

(b) The ~~no~~ ~~meaning~~ meaning of latent is hidden, when we apply heat it is taken up by the ~~kinetic~~ materials particles to overcome the forces of attraction between them by gaining kinetic ~~energy~~ energy.

(c) $1°C \Rightarrow 273°k$

$78°C \Rightarrow 351°k$

(d) The ~~suicidal~~ suicidal bags of the cells are known as lysosomes, the ~~can~~ contain the enzymes ~~that~~ that can digest a cell. Lysosomes ~~protect~~ protect the cells from foreign attacks.

(b) Mitochondria and plastids are two organelles that contain their own DNA apart from the nucleus.

q $D_1 \Rightarrow 30km$
$D_2 \Rightarrow 70km$

Average speed $\Rightarrow 40km/h$

Average speed $\Rightarrow \frac{D_1 + D_2}{T_1 + T_2}$

$40 \Rightarrow \frac{D_1 + D_2}{T_1 + T_2}$

$\Rightarrow 40 \Rightarrow \frac{100}{1 + T_2}$

$\Rightarrow 40 + 40t_2 = 100$

$\Rightarrow 40t_2 = 60 - 40$

$\Rightarrow 40t_2 = 60$

$\Rightarrow t_2 = \frac{60}{40} \frac{3}{2} \Rightarrow 1.5$

$\Rightarrow T_2 \Rightarrow \frac{2}{\quad} \Rightarrow 1.5$

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Time taken in the second part of the journey = d_2 / t_2

$\Rightarrow \frac{70}{1.5}$

$\Rightarrow 46.666$ km/h

3

Section D

12(a) Velocity:

> It is a vector quantity

> It tells the speed and direction of the body.

> ~~ve~~ It is ~~the~~ the displacement covered by a body in unit time.

~~(b)~~ Speed:

> ~~It~~ It is a scalar quantity.

> It tells the speed (how the fast body is.

> 5 It is the distance travelled by a body in unit time. 3

(b) 1st case:

⇒ v = u + at
⇒ a = (v − u)/t
⇒ a = 6/15 = 2/3 m/s²

2nd case: ½

v = u + at
a = (v − u)/t
a = −2/5 m/s² −2/5 m/s²

Q.14

(a) Boiling:

> It is the process by which the liquid turns into vapour when heated to its boiling point. ✓

> It is faster than the process of evap ✓

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Evaporation:

> It is the process at which liquid turns into vapour at any temperature below its boiling point.

> It is slower than boiling.

(b) The two characteristics of particles of matter are:

> There are tiny spaces between them.

> They are continuously moving.

(c) The temperature remains constant because the heat energy is used in overcoming the forces between the particles.

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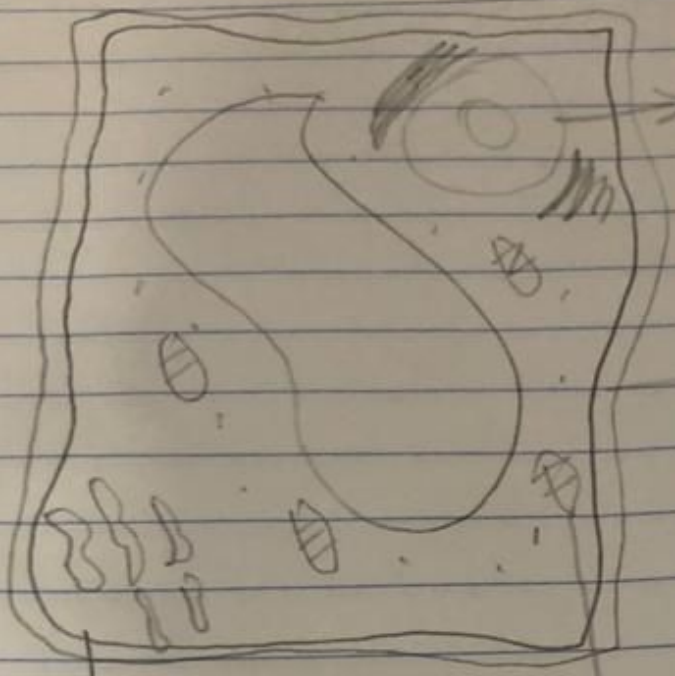

Nucleus
(a)

Cell Wall
(c)

Golgi
Apparatus
(b)

Chloroplast
(d)

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