Abhinav Tx Roll: 27 Science

10 (b) ✓

11. ✓

12. c) Metre ✓

13. a) ✓

14) ~~$-u^2$~~

$v^2 - u^2 = 2as$

$-u^2 = 2 \times -g \times s$

$s = \frac{u^2}{2g}$

(b) ✓

15.) c) ✓

16) $v = u + at$; $s = ut + \frac{1}{2}at^2$

$v = 0 + 10 \times t$; $s = 0 + \frac{1}{2} \times 10 \times t^2$

$v = 10t$; $20 = 5 \times t^2$

$v = 10 \times 2$; $4 = t^2 \Rightarrow t = 2s$

$= 20 m/s$ ✓

∴ The final velocity is 20 m/s and the time taken is 2 seconds.

Abhinav IX Roll: 27 Science

17. Slope = acceleration

$$\frac{y^2 - y^1}{x^2 - x^1} \quad \frac{50 - 0}{10 - 0} = \frac{50}{10} = 5\ m/s^2$$

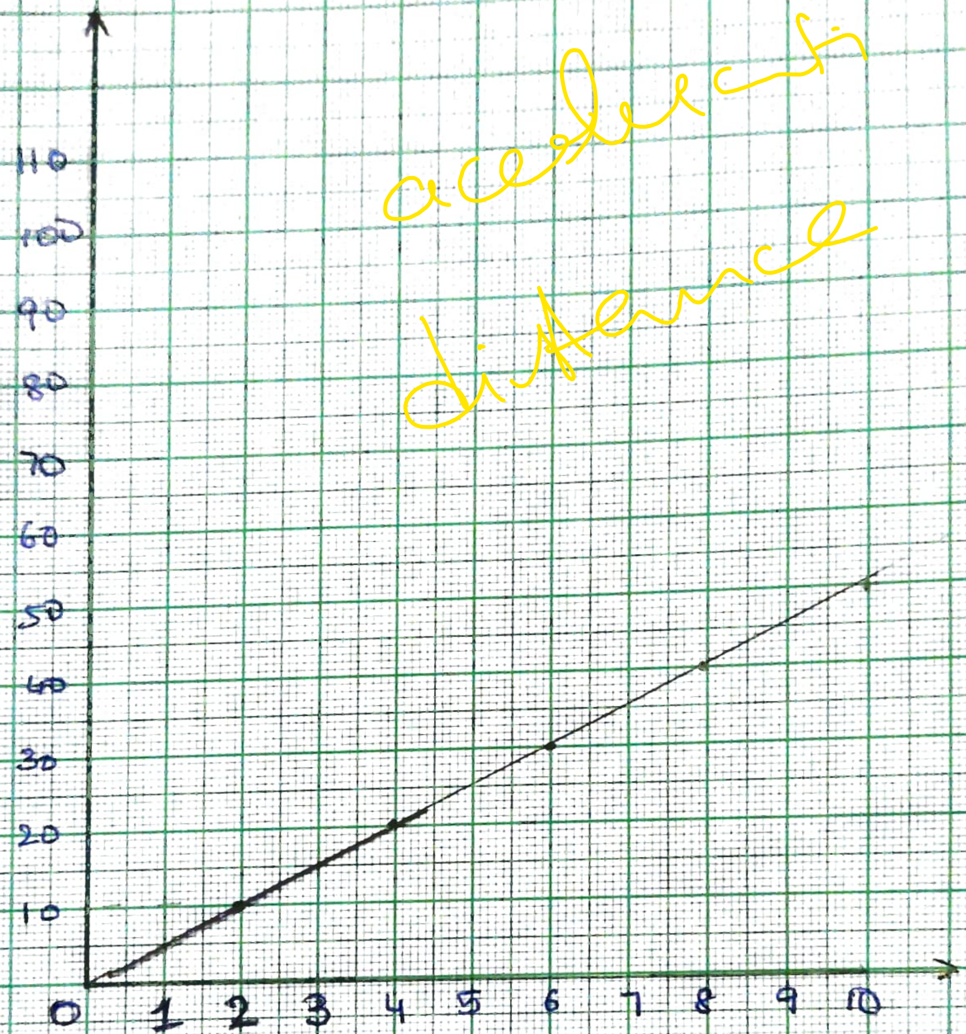
18. a) $\frac{2\pi r}{2}$ = distance = πr = $5\pi \cong \frac{110}{7}$ m

b) displacement = 5+5 = 10m

19: ~~a) Shape~~.

Solids	Gasses
a) Solids have a proper shape	Gasses occupy the shape of the container
b) Solids have a fixed volume. It cant change.	Gasses take the volume of the container. It is not fixed.
c) Intermolecular space is less.	Intermolecular space is the greatest in all states of matter
e) Solids dont diffuse.	Gasses diffuse into liquids and other gasses.

1 I)



20. a) a - Golgi complex; b - mitocondia; c - endoplasmic reticulum; e - Vacule.

b) B is the powerhouse. It is called so because it produces the ATP molecules which gives energy to the cell.

d) The nucleus in animal cell is in the centre, but in the plants, it is on the edge as the vacule is occupying the space.

e) Nucleus has a membrane and is neatly organized it is present in eukariotic cells.
Necluiod is a non-membraneous and the genetic material is just scattered in the middle with some other neculear acids. This region is the nucleoid and is present only in the prokariotic cells.

Abhinav IX Roll: 27 Science

Section-B

21. This is due to the latent heat of vaporizatio At 100°C, the water uses the supplied energy to break the bonds between them rather than just heating up. This is why the temparature is constant.

22. Diffusion is the movement of molecules from high consentration to low consentration.

When the temparature increases the rate of diffusion also increases. this is because the heat energy is absorbed and the kinetic energy increases. Because of this kinetic energy, the molecules move faster.

23. Evaporation depends on:-

- Temparature - when temparature is increased, the rate of evaporation increases.
- Surface area - As evaporation is a surface phenomina, the greater the surface, the faster the evaporation.

•) Humidity - Humidity affects evaporation. The more ~~humidity~~ humid, the slower the evaporation.

•) Wind - When the wind blows, it carries a few particles of water along with it, thus the more the wind, the more the evaporation

24. a) This proass is plasmolysis.

b) Aman placed the cell in the most salt consentrated beaker. ~~By doing this~~ In the beaker the salt content is high and water content is low. So, by osmosis the water from in the cell moves out. This shrinks the cell, this is called plasmolysis.

25. a) ~~Gto Gromo~~ - Lucoplasts are present to store the various minerals ~~and~~ glucose. in leaves, the cloroplast is also present. othe cromoplasts are also present.

b) In flowers ~~and fruits~~ the cromoplasts are present and in fruits the cromoplasts and lucoplasts are present.

26. This shows that the car is moving with a uniform acceleration.

The acceleration is :- $\frac{10-7.5}{20-15} = \frac{2.5}{5} = \frac{25}{50} = \frac{1}{2}\ m/s^2$

The acceleration is :- $\frac{10-7.5}{(20-15)\times 60} = \frac{2.5}{300} = \frac{25}{3000} = \frac{1}{120}\ m/s^2$

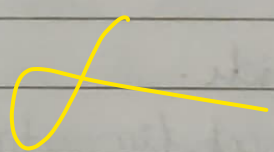
Section-C

27. a) Ammonium Chloride.
b) This process is sublimation
c) Dry ice, and Iodine, napthaline.

28. a) ice, because ice will absorb some heat and get converted to water. This extra heat is called latent heat. As it will absorb heat, it is more effective at cooling.
b) $873 - 273 = 600°C$
$300 - 273 = 27°C$

29. Cromatin contains the DNA. During cell division, the cromatin forms ~~cor cromo~~ cromosomes. A cromosome has 2 identical halves called cromatid.

30.



Section-D

31. a) Due to osmosis, the apricots absorb water in pure water and when transfered to sugar solution, they shrink.

b) It shrinks.

c) The contents inside the cell mix with the outsides. The cell is unable to perform the activities nessarry for survival

d)

e) Then the protiens synthasised by the ER will be useless as the Golgi aparatus needs to activate them.

32. ii) $1\frac{1}{2}$ h = 90 mins = 5400 s

50 km = 50000 m

$\frac{50000}{5400} = \frac{25}{27}$ m/s = avarage speed

iii) ~~$\frac{25}{30}$ Kmph~~, $\frac{3}{10}$, $\frac{12}{20}$, ~~$\frac{10}{15}$~~, $\frac{8}{15}$

iv) ~~$\frac{5}{6}$~~ Kmph