

## Science PT-1 (Subjective)

- 1) Assertion A: Velocity is the speed of an object in a particular direction

Reason R: SI unit of velocity is same as speed

Answer) a) Both Assertion A and Reason R are true and Reason R is correct explanation of Assertion A

- 2) Assertion A: A boy riding on a bicycle in a crowded street exhibit non-uniform motion

Reason R: The boy covers equal distance in equal interval of time.

Answer) Assertion (A) is true but (R) is false

- 3) Answer) Displacement from O to P = 360m

Time taken from O to P = 18 sec

Velocity of the car =  $\frac{\text{Displacement}}{\text{Time}}$

$$= \frac{360\text{m}}{18}$$

Average velocity of car from O to P =  $20 \text{ ms}^{-1}$

Time Taken from P to Q = 6 sec

Total time taken to move from O to P and back to Q

$$\text{Time} = 16 + 6 = \underline{\underline{24}}$$

$$\text{Displacement from P to Q} = \frac{240}{24}$$

$$= \underline{\underline{10 \text{ ms}^{-1}}}$$

final velocity =  $10 \text{ ms}^{-1}$ ,  $20 \text{ ms}^{-1}$

- 4) answer a) OA = Acceleration  
AB = Steady Speed  
BC = Deceleration

b) ~~OA~~ OA =  $V = 60$   
 $U = 0$   
 $t = 15$   
 $a = \frac{V - U}{t}$

$$a = \frac{60 - 0}{15} = \frac{60}{15}$$

$$\frac{60}{15} = 4 \text{ m/s}^2 \quad \text{answer } \underline{\underline{4 \text{ m/s}^2}}$$



b) ii)  $V = 0$   
 $U = 60$   
 $t = 30$

$$a = \frac{V - U}{t}$$

$$= \frac{0 - 60}{30} = -\frac{60}{30}$$

$$= -2 \text{ m/s}^2$$

5) ~~average~~ = Distance

6) initial velocity = 0

acceleration =  $4 \text{ m/s}^2$

$$V = U + at$$

$$= 0 + 4 \times 10$$

$$V = 40 \text{ m/s}$$

7) Satellites revolve around their planets in an circular motion with constant speed so during motion the speed is constant while the direction changes so the motion of satellites around their planet is accelerated motion

## SECTION B (Chemistry)

- 1) b) Both Assertion (A) and (R) reason are true ~~but~~ but the reason (R) is not correct explanation of (A) assertion
- 2) c) Assertion (A) is true but reason (R) is false
- 3) c) Assertion (A) is true but reason R is false
- 4) a) It is because water vapour present in the air coming in contact with the glass of water, loses energy to liquid state.  
b) It is because the kinetic energy of gas molecules is high and the rate of diffusion is high.

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- A - Fusion
  - B - Vaporization
  - C - Condensation
  - D - Solidification
  - E - Sublimation
  - F - Deposition



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## Section C (Biology)

1) a) The cell membrane the plasma membrane known as a selectively permeable membrane because it regulates the movement of substances in and out of the cell. This means that the plasma membrane allows the entry of only some substances.

- b) 1) Tea Bags  
2) Purpures.

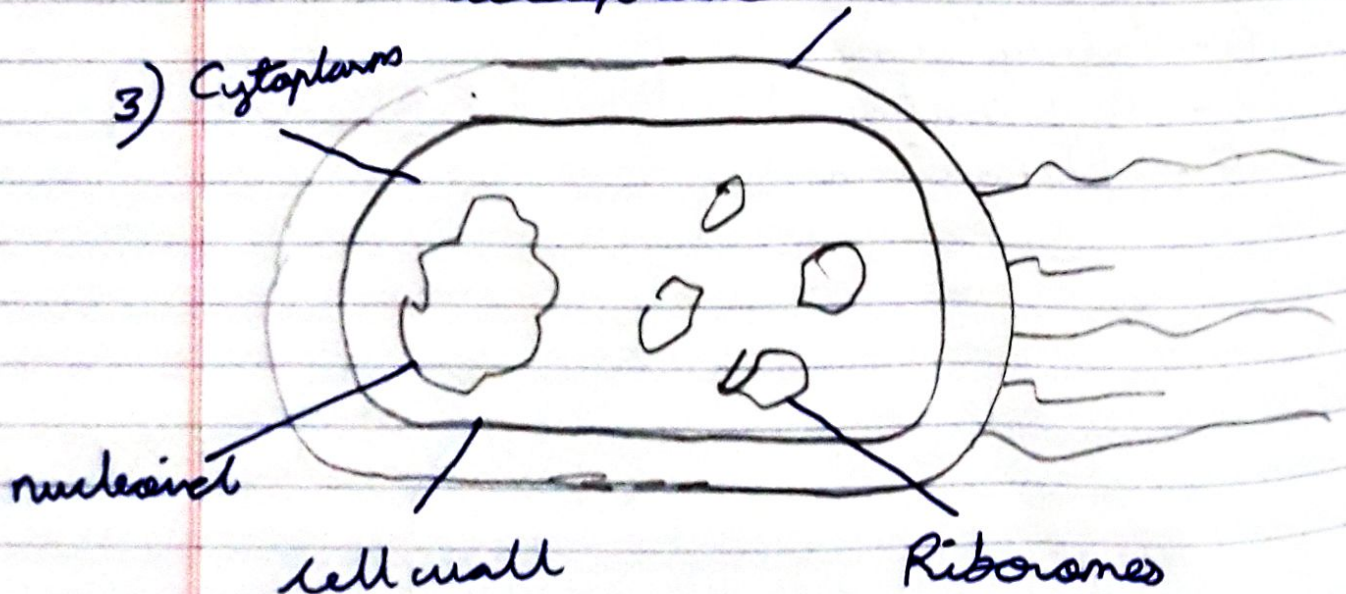
2) A - Nucleolus

B - Nuclear Pore

C - Nuclear membrane

D - Nucleoplasm Plasma membrane

3) Cytoplasm



- 4)
- 1) To keep harmful substances away from the cell
  - 2) It provides shape to the cell
  - 3) It allows stuff inwards ~~out~~ and outwards the cell