

Std. IX

SCIENCE

Time:

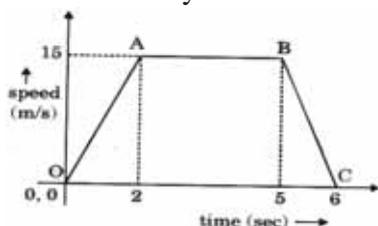
PART A - PHYSICS

Marks : 40

I Answer all the questions :

Marks : 13

1. State one point of difference between balanced and unbalanced force . (1)
2. Differentiate between Speed and Velocity. (2)
3. The speed - time graph of a car is shown below. The car in weighs 1000 kg.
  - i Find the distance covered by the car in first 2 seconds.
  - ii Find how much force is applied by the car brakes in the fifth second so that the car comes to a halt by sixth second. (2)



4. A truck is moving on a straight road with uniform acceleration. The following table give the speed of the truck at various instances of time.

Speed (m/s)	5	10	15	20	25	30
Time (S)	0	10	20	30	40	50

(3)

Draw the Speed -time graph by choosing a convenient scale. Determine from it.

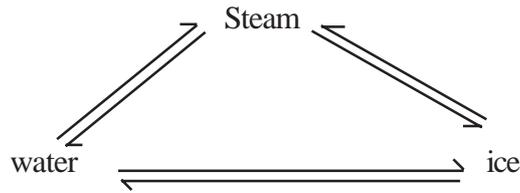
- (i) Acceleration of the truck      (ii) Distance Travelled in 50 s.
5. a. Using second law of motion, derive the relation between force and acceleration.
  - b. Give reasons for the following :
    - i. Glass wares are wrapped in straw during their transportation.
    - ii. Dust particles comes out of the carpet when it is beaten with a stick.
    - iii. A cricket player lowers his hand while catching a ball. (5)

PART B - CHEMISTRY

I Answer the following questions :

1. Convert the following temperature into celsius scale :
  - (i) 300K      (ii) 573K      (iii) 23K      (iv) OK (1)
2. Calculate the mass of ammonium chloride required to prepare its 30% (mass percent) solution in 100 g of water. (2)
3. Differentiate between Evaporation and Boiling. (2)
4. a. How will you prove that the process of evaporation depends upon the nature of liquids ?
  - b. A crystal of potassium permanganate is added to water. What will be the observation and give reason for the same. (3)

5. a. Why do surgeons often spray ether on skin before performing minor surgeries ?  
 b. In which conversion, do water molecules lose their speed.



- c. During melting process of ice, Subina observed that the temperature was increasing initially but remained constant during the melting process can you explain, what could be the reason for these two observations ? (5)

### PART C - BIOLOGY

I Answer the following questions : Mark : 14

1. Define : Protoplasm. Who coined the term 'Protoplasm'. (1)
2. What happens when RBC's are kept in concentrated salt solution ? (1)
3. a) Why is Plasma Membrane called a Selectively Permeable membrane ?  
 b). What would happen if the Plasma membrane ruptures or breakdown ? (2)
4. What is Pasturage and how is it related to honey production? (2)
5. a) The graph below shows two crop yields (plot A and B) that have been treated by manures and Chemical fertilisers respectively, keeping other environmental factors same. (3)

Answer the following questions :

- i. Why does plot B show sudden increase and then gradual decrease in yield ?
- ii. Why is the highest peak in plot A graph slightly delayed ?
- b). Name two plants that can be turned into green manure.
6. a. What is meant by Composite Fish Culture ?  
 b. What is the basis of selecting the different species of fish ?  
 c. Which method is used to get pure fish seed ? (5)

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