SUMMATIVE ASSESSMENT - I

General Science - I

Class - IX Marks - 40

Scoring key

Section - I 4×1 = 4M

(1) $K = t\,°C + 273$
$= 273 + 273 = 546K$ — 1M

(2) She moves with constant velocity. — 1M

(3) The Force on A by B is $-F$ (or) $-F_{BA}$ — 1M.

(4) Sublimation technique is used — 1M

Section - II 5×2 = 10

(5) (i) Scents diffuse and reach to our nose — 1M
(ii) CO_2 diffuse and disolve in water — 1M

6 At displacement is zero — 1M.
Ex II (i) when a body in motion returns to its starting Point
(ii) when a body moves in a circular path } 1M

7. Impact force is same for both. — 1M.
According Newton's third law the forces on the Bus and fly are equal but opposite in direction 1M

8 (i) We can explain using Newton's first law of Motion — 1M
(ii) A body continues its state of rest or of uniform motion unless net force acts on it. — 1M

(i) The immiscible liquids separate out into layers depending on their densities — 1M

(ii) Separating funnel is used — 1M.

Section - III

4×4 = 16M

(10) (A) Rate of evaporation depends on

(a) Surface area (b) Humidity (c) wind speed } — 1M

(i) Rate of evaporation increases with an increase of surface area

Ex:11 water in a china dish evaporates faster than the water in test tube. } 1M

(ii) Rate of evaporation decreases with the increase in humidity.

Ex:11 clothes dry slowly on a rainy day than on a normal day } 1M

(iii) Rate of evaporation increases with the increase in wind speed

Ex:11 Clothes dry faster on a windy day (or) under fan than a normal day. } 1M

(OR)

(B) (a) Mass of solute (salt) = 100gm
Mass of solvent (water) = 900 gm } ½ M

Mass of solution = (100+900) = 1000gm ½M

Mass Percentage of salt = $\frac{\text{Mass of salt}}{\text{Mass of salt solution}} \times 100$ ½M

$= \frac{100^{10}}{1000_{10}} \times 100 = 10\%$ ½M

(b) (3)

True solution	Colloids
Brass Sodawater	Milk Spray Fog

(11) (A) All the gases do not have same speed. - 1M

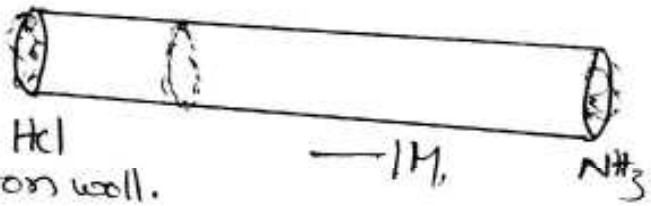
We can prove above statement by doing the following experiment.

① Take a one meter long narrow glass tube.

② Take two pieces of cotton wool.

③ Soak one piece of cotton wool in Hcl and second is in NH_3 solution.

④ Insert them seperately at the two ends of the glass tube as shown in figure.



⑤ After some time a white ring on the tube will be observed. ⟶ 1M

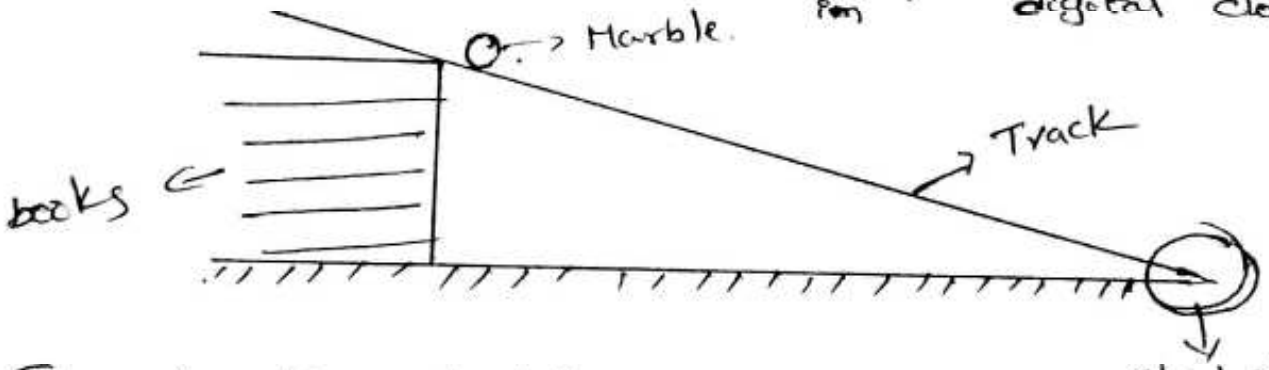
This is due to ammonia gas travel faster than Hcl gas and form ammonium Chloride. — 1M

(B) We can find the acceleration of an object moving on enclined track. using the following experiment.

Materials required — Glass marbles, book, digital clock, long plastic tube, and steel plate — 1M

Procedure: — 2M

1. Take a long plastic tube of length nearly 200 cm and cut it in half along the length of the tube.
2. Mark the readings in cm, along the track.
3. place one end of the tube on the book and other on the floor with steel plate.
4. Take small marble and release it freely from a certain distance say 40 cm and starts the digital clock.



5. Stop the digital clock when sound is produced by the marble strikes the steel plate.
6. Repeat the same experiment for the same distance 2 to 3 times and note the values of times in the table.
7. Repeat the same experiment for various distances

Distance (S)	Time (t) Sec.			Average time	Accelelation
cm	t_1	t_2	t_3	$t = \frac{t_1+t_2+t_3}{3}$	$a = 25/t^2$
40					
80					
120					
140					

(8) By using $a = \frac{2s}{t^2}$, we can calculate acceleration of an object on inclined track. —— 1M.

(12) (A)

(a) uniform motion → 1M

(b) $V = \frac{S}{t} = \frac{10}{5} = 2\ m/s$ — 1M

(c) $S = V \times t = 2 \times 5 = 10\ m$ — 1M

(d) The velocity at 18 s is zero. — 1M

(B)

(i) In Situation-A, damage is more — 1M

(ii) In Situation-A, change in momentum during the time of collision is very less — 1M

(iii) But in Situation B, change in momentum is more. i.e Δt is more. — 1M

IV. Hence, The value of Impulse for two collisions is more for Situation A — 1M

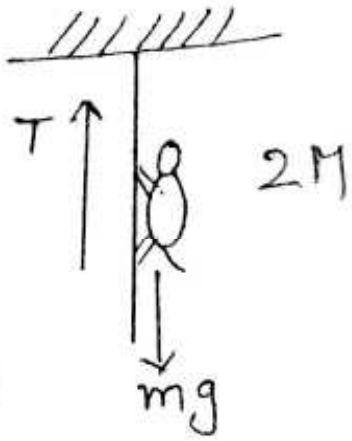
(13) (A) (6)

(a) Net force acts in Upward direction — $\frac{1}{2}$M

(b) $F_{net} = ma = 5 \times 1 = 5\,N$ — $\frac{1}{2}$M

(c) $W = mg = 5 \times 10 = 50$ kg-m/sec^2 — $\frac{1}{2}$M

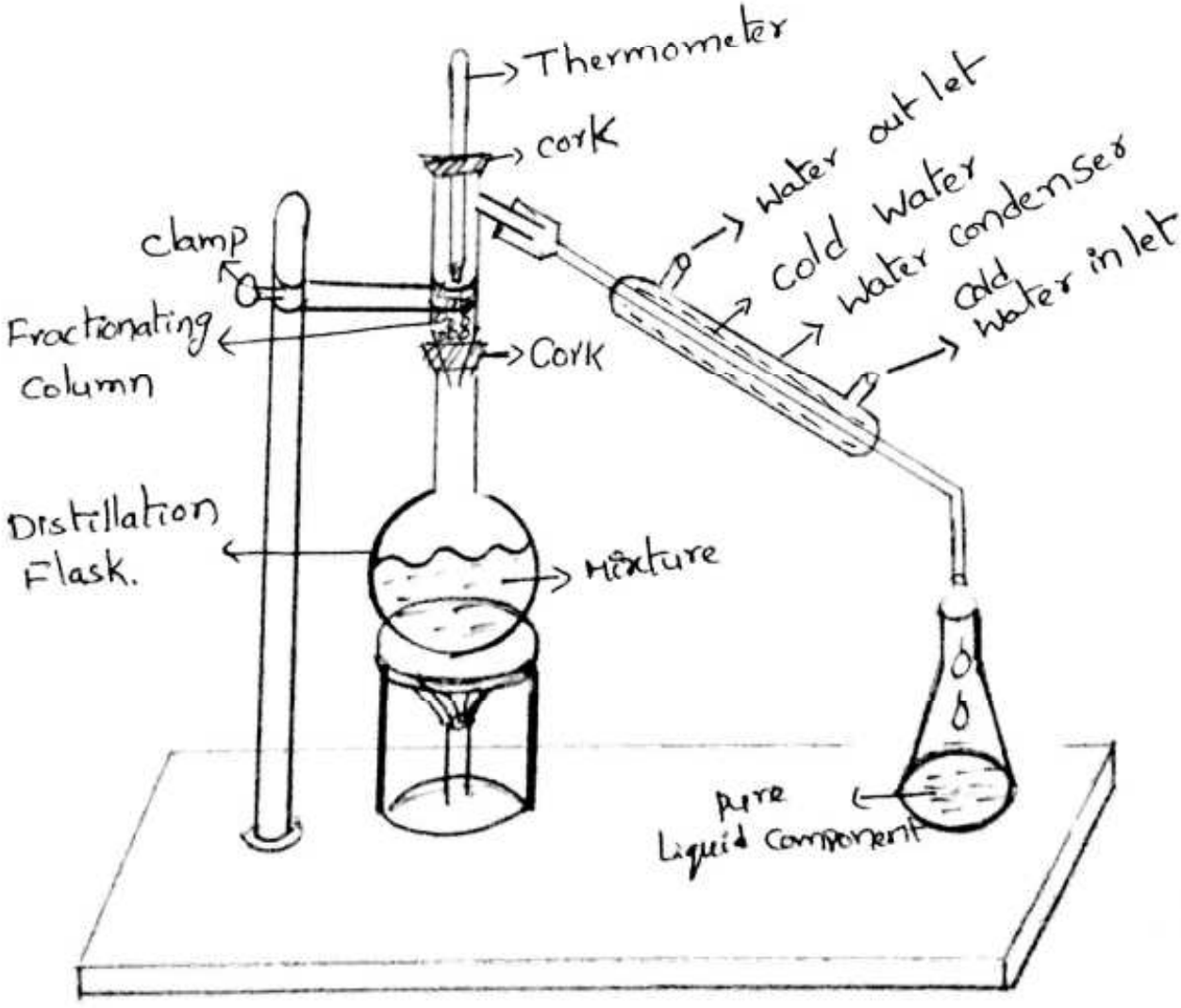
(d) Tension in the rope $= T = mg + ma$
$= 50 + 5$ — $\frac{1}{2}$M
$= 55\,N$



13) 29) Any four correct parts — 1M

FI Neat diagram — 2M

Separation of components of air Fractional distillation technique is used 1M



Part – B

14 – D	23 – C	31 – B
15 – B	24 – B	32 – C
16 – D	25 – D	33 – B
17 – A	26 – B	
18 – A	27 – A	
19 – D	28 – D	
20 – D	29 – A	
21 – C	30 – C	
22 – B		