Answer key Date - 27-5-26

Section A (Biology & Chemistry)

Q1. d) Test tube B – HCl activates pepsin

Q2. A) Both Assertion and Reason are true; Reason correctly explains Assertion

Q3. Digestion affected mainly for fats; no pancreatic enzymes

Q4.

(i) Hydrogen gas

(ii) Downward displacement of water

(iii) Insoluble in water

(iv) Lighter than air

Q5.

(A) Heat lead nitrate → brown fumes + oxygen

(B) $2KClO_3 \rightarrow 2KCl + 3O_2$

(C) $2Pb(NO_3)_2(s) \rightarrow 2PbO(s) + 4NO_2(g) + O_2(g)$

Q6.

Heat: $CaCO_3 \rightarrow CaO + CO_2$

Light: $2AgCl \rightarrow 2Ag + Cl_2$

Electricity: $2H_2O \rightarrow 2H_2 + O_2$

Q7.

(i) Protection from HCl

(ii) Fast absorption of gases

(iii) Prevents collapse of trachea

(iv) Starch → sugar by saliva

(v) Cow digests cellulose with bacteria; man cannot digest cellulose

Section - B Physics

Q1. D

Q2. A

Q3. Solution: Let speed of light in diamond= X m/s

Hence speed of light in kerosene oil= X + 25%of X = 5X/4

Refractive index of kerosene oil = speed of light in diamond ÷speed of light in kerosene oil.

= X÷ 5X/4 = 4/5= 0.80

Q4. (a) V =-60cm

Magnification (m)= -2

Using m= - v/u

-2 = -(-60)/u

U=- 30cm

Using mirror formula

1/f = 1/v + 1/u

1/f. = -1/60 – 1/30

f= -20cm

Focal length of mirror= 20cm

(b) When object shifted 20cm closer to the mirror then

u=-20cm

f=-20cm

Using mirror formula

V= infinity

Hence position of image will be at infinity.

(c)