



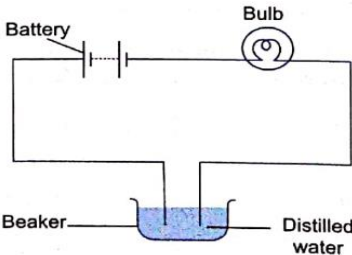
INDIAN SCHOOL AL WADI AL KABIR  
DEPARTMENT OF SCIENCE 2021 – 22  
SAMPLE QUESTION PAPER 6 (TERM I)  
CLASS 10 – SCIENCE (086)



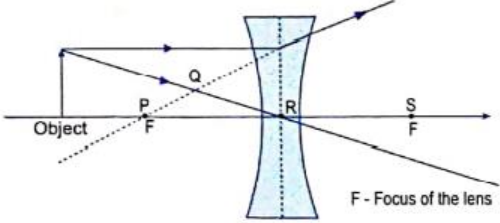
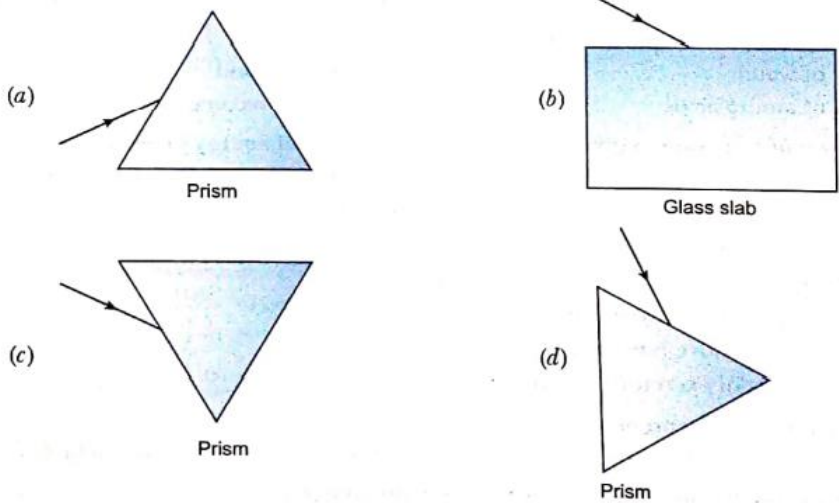
**SECTION A**

Question numbers 1 to 24 are multiple choice questions. Choose the correct option. The first attempted 20 questions would be evaluated.

1	$\text{Pb} + \text{CuCl}_2 \rightarrow \text{PbCl}_2 + \text{Cu}$ The above reaction is an example of: (a) Combustion (b) Double decomposition (c) Decomposition (d) Displacement
2	When green coloured ferrous sulphate crystals are heated, the colour of the crystal changes because: (a) It is decomposed to ferric oxide (b) It loses water of crystallization (c) It forms Sulphur dioxide (d) It forms Sulphur trioxide
3	Sodium and chlorine are reacted and as a result, sodium chloride is formed which is also called table salt. What option gives the reactants and products of the reaction? (a) Reactants—table salt; products—sodium and chlorine (b) Reactants—sodium and table salt; products—chlorine (c) Reactants—sodium; products- chlorine (d) Reactants—sodium and chlorine; products—sodium chloride
4	During the preparation of hydrogen chloride gas on a humid day, the gas is usually passed through the guard tube containing calcium chloride. The role of calcium chloride taken in the guard tube is to: (a) absorb the evolved gas (b) moisten the gas (c) absorb moisture from the gas (d) absorb $\text{Cl}^-$ ions from the evolved gas
5	To distinguish between two given colourless solutions, one of which is distilled water and the other is dilute sodium hydroxide, the following chemicals are available in the laboratory: I. Blue litmus solution II. Red litmus solution III. Granulated zinc solution IV. Sodium bicarbonate solution <b>Which two chemicals, out of the four, will a student use to distinguish the two solutions?</b> (a) I and II (b) II and III (c) I and IV (d) II and IV

6	<p>A student writes the chemical equation of the reaction between lead and copper chloride.</p> $\text{Pb}(s) + \text{CuCl}_2(aq) \rightarrow \text{PbCl}_2(aq) + \text{Cu}(s)$ <p>Which option explains the reason for the formation of lead chloride:</p> <p>(a) Lead is less reactive than copper  (b) Lead and copper are equally reactive  (c) Copper is more reactive than lead  (d) Lead is more reactive than copper</p>
7	<p>A student adds an equal amount of copper sulphate solution in two beakers. He adds zinc in beaker P and silver in beaker Q. The student observes that the color of the solution in beaker P changes while no change is observed in beaker Q. Which option arranges the metals in increasing order of reactivity?</p> <p>(a) Copper-silver-zinc  (b) Zinc-copper-silver  (c) Silver-copper-zinc  (d) Silver-zinc-copper</p>
8	<p>A student learns that sodium and magnesium react with chlorine to form sodium chloride and magnesium chloride, as shown below:</p> $2\text{Na} + \text{Cl}_2 \rightarrow 2\text{NaCl}$ $\text{Mg} + \text{Cl}_2 \rightarrow \text{MgCl}_2$ <p>The melting point of sodium chloride is 1074K while the melting point of magnesium chloride is 981 K. Why does the sodium chloride and magnesium chloride have a difference in melting point?</p> <p>(a) Sodium chloride is formed by combining with one molecule of chlorine.  (b) Magnesium chloride is formed by combining only one molecule of magnesium.  (c) Sodium chloride has strong inter-ionic bonding than magnesium chloride.  (d) Magnesium chloride is soluble in kerosene and petrol.</p>
9	<p>A student makes an electric circuit using an LED, a battery and connecting wires, as shown below:</p>  <p>The student notices that the LED does not glow. He replaces the distilled water with a salt solution and observes that the LED glows. How does the salt solution help the LED to glow?</p> <p>(a) Salt solution is covalent in nature and conducts electricity.  (b) Salt solution has a high boiling point which allows the flow of current in the circuit without getting hot.  (c) Salt solution has a low melting point which allows the current to flow through it.  (d) Salt solution contain ions which makes it conductive and allows the electricity to flow through it.</p>

10	<p>Which of the following is incorrect?</p> <table border="0"> <thead> <tr> <th>Name of the Salt</th> <th>Formula</th> <th>Base</th> <th>Acid</th> </tr> </thead> <tbody> <tr> <td>(i) Ammonium chloride</td> <td>NH<sub>4</sub>Cl</td> <td>NaOH</td> <td>HCl</td> </tr> <tr> <td>(ii) Copper sulphate</td> <td>CuSO<sub>4</sub></td> <td>Cu(OH)<sub>2</sub></td> <td>H<sub>2</sub>SO<sub>4</sub></td> </tr> <tr> <td>(iii) Sodium chloride</td> <td>NaCl</td> <td>NaOH</td> <td>HCl</td> </tr> <tr> <td>(iv) Calcium nitrate</td> <td>Ca<sub>2</sub>NO<sub>3</sub></td> <td>Ca(OH)<sub>2</sub></td> <td>HNO<sub>3</sub></td> </tr> <tr> <td>(a) (i) and (ii)</td> <td></td> <td>(b) (i) and (iv)</td> <td></td> </tr> <tr> <td>(c) (ii) and (iv)</td> <td></td> <td>(d) (iii) and (iv)</td> <td></td> </tr> </tbody> </table>	Name of the Salt	Formula	Base	Acid	(i) Ammonium chloride	NH <sub>4</sub> Cl	NaOH	HCl	(ii) Copper sulphate	CuSO <sub>4</sub>	Cu(OH) <sub>2</sub>	H <sub>2</sub> SO <sub>4</sub>	(iii) Sodium chloride	NaCl	NaOH	HCl	(iv) Calcium nitrate	Ca <sub>2</sub> NO <sub>3</sub>	Ca(OH) <sub>2</sub>	HNO <sub>3</sub>	(a) (i) and (ii)		(b) (i) and (iv)		(c) (ii) and (iv)		(d) (iii) and (iv)	
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(c) (ii) and (iv)		(d) (iii) and (iv)																											
11	<p>Why is some KOH placed in a small test tube in the flask with germinating seeds in the experiment to demonstrate occurrence of respiration in germinating seeds?</p> <p>(a) To provide oxygen required by the seeds for respiration.</p> <p>(b) To absorb carbon dioxide and create partial vacuum in the flask.</p> <p>(c) To absorb water from the seeds to make them dry.</p> <p>(d) To make the air present in the flask alkaline.</p>																												
12	<p>The kidneys in human beings are a part of the system for:</p> <p>(a) Nutrition</p> <p>(b) Respiration</p> <p>(c) Excretion</p> <p>(d) Transportation</p>																												
13	<p>The xylem in plants are responsible for:</p> <p>(a) transport of water</p> <p>(b) transport of food</p> <p>(c) transport of amino acids</p> <p>(d) transport of oxygen</p>																												
14	<p>The breakdown of pyruvate to give carbon dioxide, water and energy takes place in :</p> <p>(a) cytoplasm</p> <p>(b) mitochondria</p> <p>(c) chloroplast</p> <p>(d) nucleus</p>																												
15	<p><b>The main function of the ureters is to</b></p> <p>(a) control the pressure of urine in urinary bladder.</p> <p>(b) take urine from kidneys to urinary bladder.</p> <p>(c) filter blood and remove it to urine.</p> <p>(d) connect the parts of excretory system.</p>																												
16	<p>Alveoli are located at the end of :</p> <p>(a) Bronchi</p> <p>(b) Heart</p> <p>(c) Lungs</p> <p>(d) Bronchioles</p>																												
17	<p>If the magnification of a lens has a positive value, the image is :</p> <p>(a) Real</p> <p>(b) Virtual and erect</p> <p>(c) Inverted</p> <p>(d) None of these.</p>																												
18	<p>An object is placed at 100 mm in front of a concave mirror which produces an upright image (erect image). The radius of curvature of the mirror is:</p> <p>(a) Less than 100 mm</p> <p>(b) Between 100 mm and 200 mm</p> <p>(c) Exactly 200 mm</p> <p>(d) More than 200 mm</p>																												

19	<p>An object at a distance of 30 cm from a concave mirror gets its image at the same point. The focal length of the mirror is</p> <p>(a) - 30 cm                      (b) 30 cm                      (c) - 15 cm                      (d) +15 cm</p>
20	<p>The refractive indices of four substances P, Q, R and S are 1.50, 1.36, 1.77 and 1.31 respectively. The speed of light is the maximum in the substance</p> <p>(a) P                      (b) Q                      (c) R                      (d) S</p>
21	<p>An object is placed at the 35 cm distance from a concave mirror of focal length 15 cm. The mirror will produce:</p> <p>(a) Magnified real image  (b) A diminished real image  (c) A magnified virtual image  (d) An image of same size as the object</p>
22	<p>The image represents the rays of light travelling through a concave lens.</p>  <p>Where is the image most likely to form?</p> <p>(a) R                      (b) Q  (c) P                      (d) S</p>
23	<p>For which colour, refractive index of glass is maximum?</p> <p>(a) Red                      (b) Violet  (c) Green                      (d) Yellow</p>
24	<p>In which of the following cases will no dispersion take place when sunlight passes through it?</p>  <p>(a) Prism                      (b) Glass slab  (c) Prism                      (d) Prism</p>

SECTION B

Section B consists of 24 questions (S.NO. 25-48). Attempt any 20 questions from this section. The first attempted 20 questions would be evaluated.

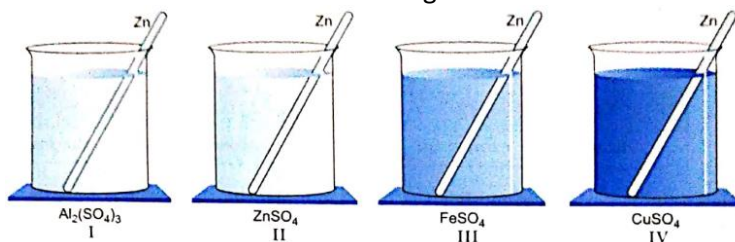
25	<p>A student makes a list of some activities he observes one day.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><b>1. Baking a cake in an oven</b>  <b>2. Cutting an apple pie into slices</b>  <b>3. Crushing the can after drinking a soda</b>  <b>4. Carving a wooden log to make a stand</b></p> </div> <p>(a) Activity 1, as the properties of the substances in the mixture change.            (b) Activity 2, as the physical state of the apple pie changes when cut.            (c) Activity 3, as the shape of the can changes.            (d) Activity 4, as the shape and size of the wooden log changes.</p>																
26	<p>Complete the following statement by choosing correct options for X and Y. During the process of respiration, glucose combines with oxygen in the cells of our body and X – a large amount of energy. Hence, the respiration is a Y process.</p> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p>(a)</p> <table border="1" style="border-collapse: collapse;"> <tr><td style="padding: 5px;">X</td><td style="padding: 5px;">Y</td></tr> <tr><td style="padding: 5px;">releases</td><td style="padding: 5px;">endothermic</td></tr> </table> </div> <div style="text-align: center;"> <p>(b)</p> <table border="1" style="border-collapse: collapse;"> <tr><td style="padding: 5px;">X</td><td style="padding: 5px;">Y</td></tr> <tr><td style="padding: 5px;">absorbs</td><td style="padding: 5px;">endothermic</td></tr> </table> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p>(c)</p> <table border="1" style="border-collapse: collapse;"> <tr><td style="padding: 5px;">X</td><td style="padding: 5px;">Y</td></tr> <tr><td style="padding: 5px;">releases</td><td style="padding: 5px;">exothermic</td></tr> </table> </div> <div style="text-align: center;"> <p>(d)</p> <table border="1" style="border-collapse: collapse;"> <tr><td style="padding: 5px;">X</td><td style="padding: 5px;">Y</td></tr> <tr><td style="padding: 5px;">absorbs</td><td style="padding: 5px;">exothermic</td></tr> </table> </div> </div>	X	Y	releases	endothermic	X	Y	absorbs	endothermic	X	Y	releases	exothermic	X	Y	absorbs	exothermic
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27	<p>Match the important chemicals given in the column (A) with the chemical formulae given in column (B).</p> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 45%;"> <p><b>Column A</b></p> <p>A. Plaster of Paris            B. Gypsum            C. Bleaching Powder            D. Slaked Lime</p> </div> <div style="width: 45%;"> <p><b>Column B</b></p> <p>(i) <math>\text{Ca}(\text{OH})_2</math>            (ii) <math>\text{CaSO}_4 \cdot 1/2\text{H}_2\text{O}</math>            (iii) <math>\text{CaSO}_4 \cdot 2\text{H}_2\text{O}</math>            (iv) <math>\text{CaOCl}_2</math></p> </div> </div> <p>(a) A—(iii); B—(ii); C—(iv); D—(i)            (b) A—(ii); B—(iii); C—(i); D—(iv)            (c) A—(ii); B—(iii); C—(iv); D—(i)            (d) A—(i); B—(iv); C—(ii); D—(iii)</p>																
28	<p>Four students were given colourless liquids A, B, C of water, lemon juice, and a mixture of water and lemon juice respectively. After testing these liquids with pH paper, the following sequences in colour change of pH paper were reported.</p> <p>I. Blue, Red and Green            II. Orange, Green and Green            III. Green, Red and Red            IV. Red, Red and Green</p> <p><b>The correct sequence of colours observed is</b></p> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <p>(a) I</p> <p>(b) II</p> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <p>(c) III</p> <p>(d) IV</p> </div>																



29 Four students studied reactions of zinc and sodium carbonate with dilute hydrochloric acid and dilute sodium hydroxide solutions and presented their results as follows. The  $\checkmark$  represents evolution of gas, whereas (X) represents absence of any reaction.

(a)	Zn	Na <sub>2</sub> CO <sub>3</sub>	(c)	Zn	Na <sub>2</sub> CO <sub>3</sub>
HCl	$\checkmark$	$\checkmark$	HCl	X	X
NaOH	$\checkmark$	X	NaOH	$\checkmark$	$\checkmark$
(b)	Zn	Na <sub>2</sub> CO <sub>3</sub>	(d)	Zn	Na <sub>2</sub> CO <sub>3</sub>
HCl	$\checkmark$	X	HCl	$\checkmark$	$\checkmark$
NaOH	$\checkmark$	$\checkmark$	NaOH	X	X

30. Four students A, B, C and D noted the initial colour of the solutions in beakers I, II, III and IV. After inserting zinc rods in each solution and leaving it undisturbed for two hours, noted the colour of each solution again.



They recorded their observations in the form of table given below:

Student	Colour of the solution	I	II	III	IV
A	Initial	Colourless	Colourless	Light green	Blue
	Final	Colourless	Colourless	Colourless	Colourless
B	Initial	Colourless	Light yellow	Light green	Blue
	Final	Colourless	Colourless	Light green	Colourless
C	Initial	Colourless	Colourless	Light green	Blue
	Final	Light blue	Colourless	Colourless	Light blue
D	Initial	Light green	Colourless	Light green	Blue
	Final	Colourless	Colourless	Dark green	Colourless

Which student noted the colour change in all the four beakers correctly?

- (a) A (b) B  
(c) C (d) D

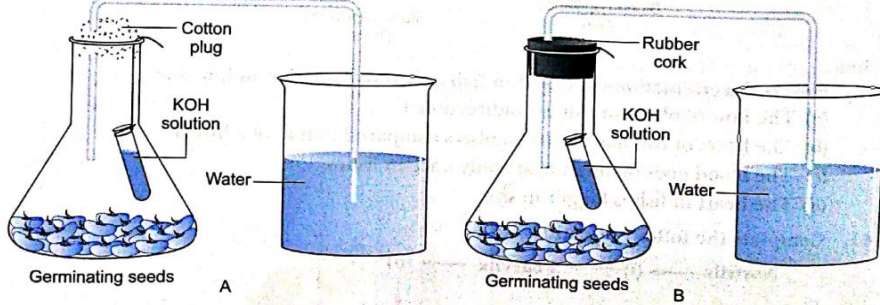
Question No. 31 to 34 consist of two statements – Assertion ( A ) and Reason ( R ). Answer these questions selecting the appropriate option given below:

- (a) Both A and R are true and R is the correct explanation of A.  
(b) Both A and R are true and R is the not the correct explanation of A.  
(c) A is true but R is false.  
(d) A is false but R is true.



38

Using the same number of given germinating gram seeds, two students A and B set up the experiment separately. Student A used a cotton plug to hold the bent tube in the mouth of the flask. Student B used a rubber cork.

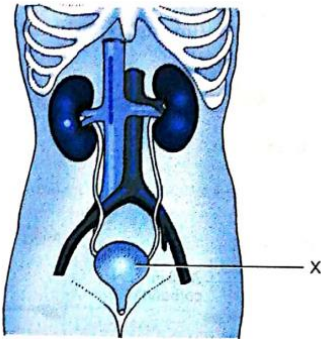


After 4 hours, they noticed that

- (a) water level increased in the bent tube only of A.
- (b) water level increased in the bent tube only of B.
- (c) the cotton plug was wet.
- (d) the water in the beaker of B turned milky.

39

The image shows the excretory system in humans.

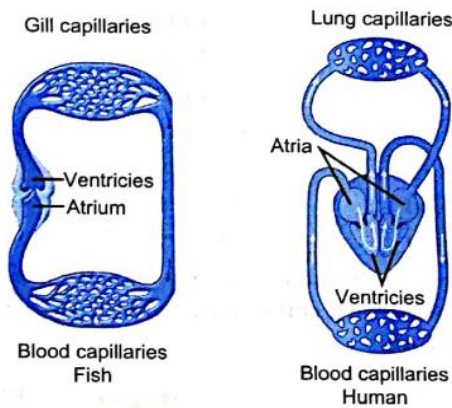


What is the importance of the labelled part in excretory system?

- (a) It filters waste from the blood
- (b) It carries urine from kidney to outside
- (c) It stores the urine till urination
- (d) It produces urine.

40

The image shows the circulation of blood in fishes and humans.



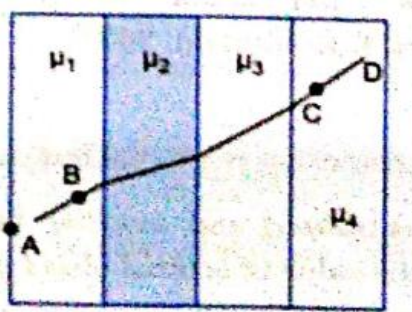




45 An eye specialist prescribes spectacles having combination of convex lens of focal length 40 cm in contact with a concave lens of focal length of 25 cm. The power of this lens combination in diopters is

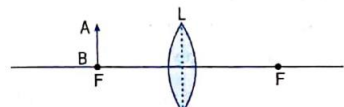
(a) +1.5  
 (b) -1.5  
 (c) -6.67  
 (d) +6.67

46 A ray of light passes through four transparent media with refractive indices as shown. The surface of all media are parallel. If the emergent ray CD is parallel to the incident ray AB, we must have:



- (a)  $\mu_1 = \mu_2$   
 (b)  $\mu_4 = \mu_1$   
 (c)  $\mu_3 = \mu_4$   
 (d)  $\mu_2 = \mu_3$

47 An object AB is placed in front of a convex lens at its focus as shown in figure

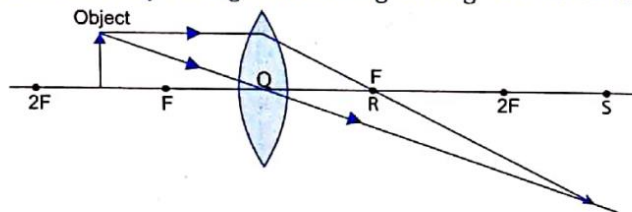


Which of the ray diagram below correctly depicts the refraction through the lens L ?

- (a) (b)
- (c) (d)

48

The image represents the rays of light travelling through a convex lens.



Where is the image most likely to form?

- (a) Position Q  
(c) Position P

- (b) Position R  
(d) Position S

### SECTION C

Section C consists of three cases followed by questions. There are total of 12 questions in this section. Attempt any 10 questions from this section. The first attempted 10 questions would be evaluated.

Case based Question – 1 : Internal pH in Health and Disease.

Definition of pH

pH is defined as the negative logarithm of the hydrogen ion concentration. This definition of pH was introduced in 1909 by the Danish biochemist, Soren Peter Lauritz Sorensen ( 1868 – 1939). This value ranges from 0 to 14 pH. Values below 7 pH exhibit acidic properties while values above 7 pH exhibit basic or alkaline properties ( Frederick J Kohlmann,2003)

pH value of various body fluids

#### 1. Blood pH

The bloodstream is the most centralised and sensitive buffered system of the entire body and maintain a slightly alkaline pH with the value of arterial blood pH is 7.41 and venous blood being pH is 7.36 ( Frederick J Kohlmann,2003)

#### 2. Interstitial fluids and connective tissue pH:

Interstitial fluid present in the intercellular area and considered as medium for smooth functioning of all tissues. It reflects the pH of blood plasma, blood serum, urine, and occasionally cerebrospinal fluid in diagnosing disease. (Bodyfluids, 2015) A normal pH in these areas is 7.34 and 7.40, sometimes becomes more acidic as body dumps metabolic acids in these areas can dangerously drop to the concentrations of pH = 5.0.

#### 3. Urine pH values:

Urine is slightly acidic in the morning, (pH = 6.5-7.0) and generally becomes more alkaline (pH = 7.5 - 8.0) by evening in healthy people primarily because no food or beverages are consumed while sleeping (The Role of pH and Healthy Living, 215)

#### 4. Salivary pH

The pH of saliva is usually between 6.5-7.5 Most medical and surgical subspecialists concern themselves with a specific organ (e.g. nephrology), region of the body (e.g., cardiothoracic surgery), or disease process (e.g., infectious disease), but critical care specialists are more often concerned about acids base balance which is responsible for various severe derangements in body systems and area of main focus by intensivists. (John A Kellum, 2000)

## Causes of acidic pH

### 1. Oestrogen levels

It binds to receptor sites on the cells membrane. One natural oestrogen, oestradiol, is particularly aggressive, reduces the potassium levels, increases the sodium levels, with the resultant effect that the cell becomes more acidic, *i.e.*, uses less and less oxygen, and could result in ill health and cancer.

### 2. Insufficient sleep

During sleep pineal gland produces melatonin, which helps put to into a deeper sleep. Inadequate melatonin levels leads to increased oestrogen levels which further leads to neoplasia.

### 3. Chemicals and pesticides

If inhaled or ingested can mimic the action of oestrogen within cells.

### 4. Stress hormones

Hormones like cortisol affect localized hormones like Insulin and steroids around cells in stressful times and can set up acid conditions in the body. Interestingly, people with cancer have higher cortisol levels, more inflammation and more metastases.

### 5. Low level of blood oxygen

Cancer cells are anaerobic and cannot survive in the presence of high levels of oxygen which is considered as one of the treatment modality.

### 6. Acid pooling

The body dumps metabolic acids substances from the blood into cells to maintain the alkaline nature of blood. Due to which cells becomes acidic with low levels of oxygen levels and harms the DNA, leads to lysis of most of the acidic cells.

However, some will evolve, and adapt, and survive by becoming abnormal, mutated cells or Malignant cells.

**Source:** June 2016, *Iranian Journal of Pathology*. 11(2):176-180

49	Range of pH scale is (a) 7 to 10 (b) 0 to 10 (c) 0 to 14 (d) 7 to 14
50	Level of pH found in antacid solution (a) $\leq 6.5$ (c) $> 10$ (b) $\approx 7.0$ (d) $> 14$
51	Three unknown solutions are given with pH value of 6,8 and 9.5 respectively. Which solution will contain the maximum $\text{OH}^-$ ions? (a) Solution sample – 1 (b) Solution sample – 2 (c) Solution sample - 3 (d) Data are sufficient
52	pH of neutral salt is (a) 7 (b) $<7$ (c) $>7$ (d) 0



Case-based Question II: Photosynthesis

Carbon and energy requirements of the autotrophic organism are fulfilled by photosynthesis. It is the process by which autotrophs take in substances from the outside and convert them into stored forms of energy. This material is taken in the form of Carbon dioxide and water which is converted into carbohydrates in the presence of sunlight and chlorophyll. Carbohydrates are utilized for providing energy to the plant. The carbohydrates which are not used immediately are stored in the form of starch, which serves as the internal energy reserve to be used as and when required by the plant. A somewhat similar situation is seen in humans where some of the energy derived from the food we eat is stored in our body in the form of glycogen. That means the complex substances have to be broken down into simpler ones before they can be used for the upkeep and growth of the body. To achieve this, organisms use biocatalysts.

53

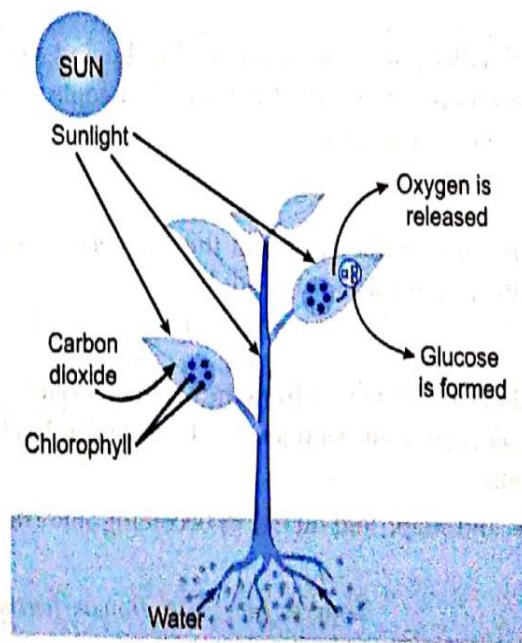
**Heterotrophs depend for energy on**

- (a) autotrophs
- (c) herbivores

- (b) producers
- (d) both (a) and (b)

54

**The picture given below represents how autotrophs take in substances from the outside and convert them into stored forms of energy.**

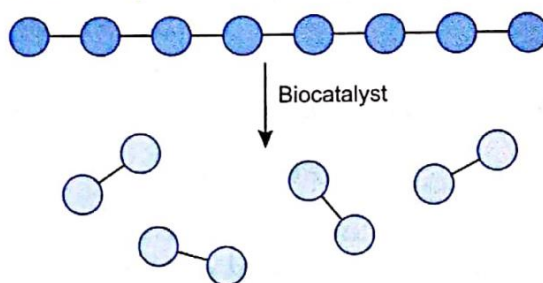


**The correct equation for the given process is**

- (a)  $6\text{CO}_2 + 6\text{H}_2\text{O} \longrightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$
- (b)  $6\text{O}_2 + 6\text{H}_2\text{O} \longrightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{CO}_2$
- (c)  $\text{C}_6\text{H}_{12}\text{O}_6 + 6\text{H}_2\text{O} \longrightarrow 6\text{CO}_2 + 6\text{O}_2$
- (d)  $6\text{CO}_2 + 6\text{O}_2 \longrightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{H}_2\text{O}$

55

Study the picture below that represents the mode of action of a biocatalyst.



Choose the correct combination of information provided in the following table.

	Biocatalyst also termed as	Biocatalyst found in human saliva	Biocatalyst produced in human stomach
(a)	Enzymes	Amylase	Pepsin
(b)	Hormones	Amylase	Trypsin
(c)	Enzymes	Trypsin	Pepsin
(d)	Energy	Pepsin	Amylase

56

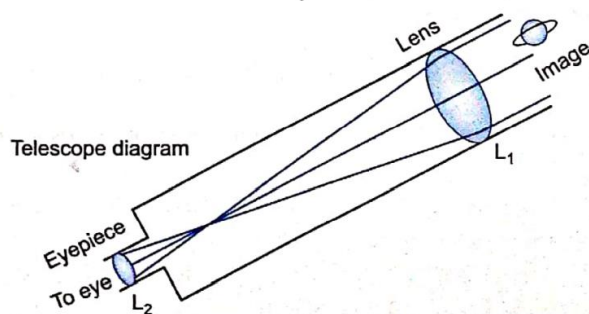
Which of the following statement (s) is (are) true?

- I. Carbon and energy requirements of the autotrophic organism are fulfilled by photosynthesis.
- II. Carbohydrates are utilised for providing energy to the plant.
- III. Chlorophyll is essential for photosynthesis.
- IV. Survival of autotrophs depends directly or indirectly on heterotrophs.

- (a) I and II only
- (b) II and III only
- (c) I, II and III only
- (d) I, III and IV only

### Case-based Question–III : An Experiment with Convex Lens

Sumati wanted to see the stars of the night sky. She knows that she needs a telescope to see those distant stars. She finds out that the telescopes which are made of lenses are called refracting telescopes and the ones which are made of mirrors are called reflecting telescopes.



So, she decided to make a refracting telescope. She bought two lenses,  $L_1$  and  $L_2$  out of which  $L_1$  was bigger and  $L_2$  was smaller. The larger lens gathers and bends the light, while the smaller lens magnifies the image. Big, thick lenses are more powerful. So to see far away, she needed a big powerful lens. Unfortunately, she realized that a big lens is very heavy.

Heavy lenses are hard to make and difficult to hold in the right place. Also since the light is passing through the lens, the surface of the lens has to be extremely smooth. Any flaws in the lens will change the image. It would be like looking through a dirty window.

57	<p><b>Based on the diagram shown, what kind of lenses would Sumati need to make the telescope?</b></p> <p>(a) Concave lenses (c) Bifocal lenses</p> <p>(b) Convex lenses (d) Flat lenses</p>
58	<p><b>If the powers of the lenses <math>L_1</math> and <math>L_2</math> are in the ratio of 4 : 1, what would be the ratio of the focal length of <math>L_1</math> and <math>L_2</math>?</b></p> <p>(a) 4 : 1 (c) 2 : 1</p> <p>(b) 1 : 4 (d) 1 : 1</p>
59	<p><b>What is the formula for magnification obtained with a lens?</b></p> <p>(a) Ratio of height of image to height of object (b) Double the focal length (c) Inverse of the radius of curvature (d) Inverse of the object distance</p>
60	<p><b>Sumati did some preliminary experiment with the lenses and found out that the magnification of the eyepiece (<math>L_2</math>) is 3. If in her experiment with <math>L_2</math> she found an image at 24 cm from the lens, at what distance did she put the object?</b></p> <p>(a) 72 cm (c) 8 cm</p> <p>(b) 12 cm (d) 6 cm</p>

ANSWER KEY

1	d	31	b
2	b	32	a
3	d	33	c
4	c	34	c
5	b	35	d
6	d	36	a
7	c	37	b
8	c	38	b
9	d	39	c
10	b	40	a
11	b	41	b
12	c	42	c
13	a	43	d
14	b	44	c
15	b	45	b
16	d	46	b
17	b	47	a
18	d	48	d
19	c	49	c
20	d	50	b
21	c	51	c
22	b	52	a
23	b	53	d
24	b	54	a
25	a	55	a
26	c	56	c
27	c	57	b
28	c	58	b
29	a	59	a
30	a	60	c