



NOIDA PUBLIC SCHOOL
A-78,Sector-23,Noida
Affiliation No 2130200
Session:2023-24



CLASS X
BIOLOGY ASSIGNMENT

Section A		
1	Anaerobic process a) takes place in yeast during fermentation b) produces ethanol, oxygen, and energy c) takes place in the presence of oxygen d) produces only energy in the muscles of human beings	[1]
2	If the solute concentration of raisin is more inside then: a) endosmosis rate will be same b) endosmosis rate will be less c) endosmosis rate will be more d) endosmosis process will not occur	[1]
3	The internal (cellular) energy reserve in autotrophs is a) Glycogen b) Starch c) Protein d) Fatty acid	[1]
4	On complete digestion of fats, the end products are a) Fatty acid and amino acids b) Fatty acids and glycerol c) Glucose and amino acids d) Glucose and glycerol	[1]

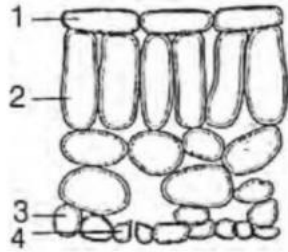
5	<p>Which of the following does not respire through the lungs?</p> <p>a) Duck</p> <p>b) Frog</p> <p>c) Whale</p> <p>d) Tadpole</p>	[1]
6	<p>In the experiment to show that carbon dioxide is given out during respiration, the student use:</p> <p>a) KOH solution</p> <p>b) Alcohol</p> <p>c) Iodine solution</p> <p>d) Lime water</p>	[1]
7	<p>Experiment to show that CO₂ is given out during respiration, the type of respiration is:</p> <p>a) Both anaerobic and aerobic</p> <p>b) Neither Anaerobic nor aerobic</p> <p>c) Anaerobic</p> <p>d) Aerobic</p>	[1]
8	<p>When air is blown from mouth into a test - tube containing lime water, the lime water turned milky due to presence of -</p> <p>a) water vapours</p> <p>b) nitrogen</p> <p>c) oxygen</p> <p>d) carbon dioxide</p>	[1]
9	<p>A black strip of paper was clipped onto a destarched leaf in a potted plant to cover a part of the leaf. The plant was then exposed to sunlight for four hours, the paper strip was removed and the leaf was tested for starch. When iodine solution was added:</p> <p>a) The entire leaf turned blue - black.</p> <p>b) The uncovered part of the leaf became blue - black.</p>	[1]

	<p>c) The colour of the iodine solution remain unchanged.</p> <p>d) The covered part of the leaf became blue - black.</p>	
10	<p>Assertion (A) : Dark phase is independent of light, hence called light independent phase. Reason (R) : Dark phase takes place at night.</p> <p>a) Both A and R are true and R is the correct explanation of A.</p> <p>b) Both A and R are true but R is not the correct explanation of A.</p> <p>c) A is true but R is false.</p> <p>d) A is false but R is true.</p>	[1]
11	<p>Assertion (A): Plants lack excretory organs. Reason (R): Plants usually absorbs essential nutrients.</p> <p>a) Both A and R are true and R is correct explanation of the assertion.</p> <p>b) Both A and R are true and R is not correct explanation of the assertion.</p> <p>c) A is true but R is false.</p> <p>d) A is false but R is true.</p>	[1]
12	<p>Assertion (A): Amoeba is an omnivore organism. Reason (R): Lion is a carnivore organism.</p> <p>a) Both A and R are true and R is the correct explanation of A.</p> <p>b) Both A and R are true but R is not the correct explanation of A.</p> <p>c) A is true but R is false.</p> <p>d) A is false but R is true.</p>	[1]
13	<p>Assertion (A): In humans, there is a complex respiratory system. Reason (R): Human skin is impermeable to gases.</p> <p>a) Both A and R are true and R is the correct explanation of A.</p> <p>b) Both A and R are true but R is not the correct explanation of A.</p> <p>c) A is true but R is false.</p> <p>d) A is false but R is true.</p>	[1]
14	<p>Assertion (A): Photorespiration decreases net photosynthesis. Reason (R): Rate of respiration in dark and light is almost same in all plants.</p>	[1]

	<p>a) Both A and R are true and R is the correct explanation of A.</p> <p>b) Both A and R are true but R is not the correct explanation of A.</p> <p>c) A is true but R is false.</p> <p>d) A is false but R is true.</p>	
15	<p>Assertion (A): In plants, there is no need for specialised respiratory organs. Reason (R): Plants do not have great demands for gaseous exchange.</p> <p>a) Both A and R are true and R is correct explanation of the assertion.</p> <p>b) Both A and R are true but R is not the correct explanation of the assertion</p> <p>c) A is true but R is false.</p> <p>d) A is false but R is true.</p>	[1]
16	<p>Assertion (A): In woody plants, gaseous exchange occurs through lenticels. Reason (R): Lenticels are specialised cells found along with stomata on the stem of woody plants.</p> <p>a) Both A and R are true and R is the correct explanation of A.</p> <p>b) Both A and R are true but R is not the correct explanation of A.</p> <p>c) A is true but R is false.</p> <p>d) A is false but R is true.</p>	[1]
17	<p>Assertion (A): In the daytime, CO₂ generated during respiration is used up for photosynthesis. Reason (R): There is no CO₂ release during day.</p> <p>a) Both A and R are true and R is the correct explanation of A.</p> <p>b) Both A and R are true but R is not the correct explanation of A.</p> <p>c) A is true but R is false.</p> <p>d) A is false but R is true.</p>	[1]
	Section B	
18	What criteria do we use to decide whether something is alive?	[2]
19	What are the basic requirements for the process of photosynthesis?	[2]
20	What is the role of saliva in the digestion of food?	[2]
21	Why is the rate of breathing in aquatic organisms much faster than in terrestrial organisms?	[2]

22	<p>Draw a diagram of the respiratory system and label the following.</p> <ol style="list-style-type: none"> The part through which air is taken in. The part which protects the lungs. The part which carries the air into the lungs. 	[2]								
23	Differentiate between Respiration and Photosynthesis.	[2]								
Section C										
24	Why the leaf is boiled in alcohol for a few minutes using a water bath in an experiment to show that sunlight is necessary for photosynthesis?	[3]								
25	If a plant is releasing carbon dioxide and taking in oxygen during the day, does it mean that there is no photosynthesis occurring? Justify your Answer.	[3]								
26	<p>During respiration in an organism A, one molecule of glucose produces 2 ATP molecules whereas in respiration of another organism B, one molecule of glucose produces 38 ATP molecules.</p> <ol style="list-style-type: none"> Which organism is undergoing aerobic respiration? Which organism is undergoing anaerobic respiration? Which type of organism A or B can convert glucose into alcohol? Name one organism which behaves like A. Name one organism which behaves like B. 	[3]								
27	<p>Observe the following table carefully and match the components of part I with part II of the table. Write them in complete sentences.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Part I</th> <th>Part II</th> </tr> </thead> <tbody> <tr> <td>Unicellular organism</td> <td>Transpiration</td> </tr> <tr> <td>Human beings</td> <td>Diffusion</td> </tr> <tr> <td>Plants</td> <td>Urination</td> </tr> </tbody> </table>	Part I	Part II	Unicellular organism	Transpiration	Human beings	Diffusion	Plants	Urination	[3]
Part I	Part II									
Unicellular organism	Transpiration									
Human beings	Diffusion									
Plants	Urination									
Section D										
28	<p>Read the following and answer any four questions: Leena is a class X girl and actively participates in the Green School programme. She planted some trees as she needs to know and observe how plants grow by preparing their own food. She placed a potted plant in her room and observed after 3 - 4 weeks that leaves turned pale - yellow instead of green in colour. She realized her mistake and kept the plant back in the sunlight.</p>	[4]								

1. The diagram shows the arrangement of cells inside the leaf of a green



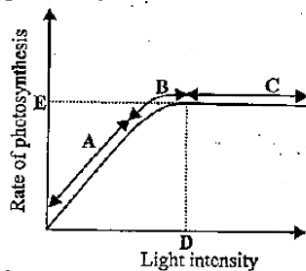
plant.

Which cells normally contain chloroplast?

- 1 and 2
 - 1 and 4
 - 2 and 4
 - 2 and 3
2. In photosynthesis which substances are used up, which are produced and which are necessary but remains unchanged after the reaction?

	Substance used up	Produced	Remain unchanged
(a)	Carbon dioxide	Water	Oxygen
(b)	Chlorophyll	Carbon dioxide	Water
(c)	Oxygen	Starch	Cellulose
(d)	Water	Oxygen	Chlorophyll

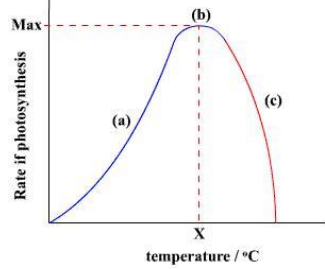
3. The following graph shows the effect of light intensity on the rate of photosynthesis which of the following statement/statements is correct?



- Light is a limiting factor in the region A
- Region C represents that rate of photosynthesis is not increased further by increasing light intensity because some other factors become limiting
- Point D represents the intensity of light at which some other factors becomes limiting

d. All of these

A graph to show the effect of temperature on the rate of photosynthesis

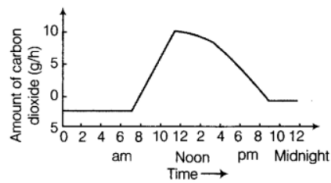


4.

At what point is optimum temperature reached?

- a. Region (a)
- b. Point (b)
- c. Region (c)
- d. None of these

5. The graph shows how the amount of CO₂ taken in by a plant varies through a 24 hour period.



At what time of the day was the rate of photosynthesis the greatest?

- a. At 7 am
- b. At 12 (noon)
- c. At 10 pm
- d. At 6 am