Assignment for SSC Examinees, 2021

Subject: Biology **Subject Code: 138** **Level: SSC**

<table>
<tr><th>Assignment Number, Chapter Number, Chapter Title</th><th>Assignment</th><th>Learning outcomes</th><th>Guidelines (cues/steps or stages)</th><th>Assessment Criterion /Rubric</th><th>Com'ts</th></tr>
<tr>
<td>03

Chapter 04

Bioenergetics</td>
<td>Determining the effects of different factors on releasing oxygen during Photosynth-esis through comparative experiment and outcome analysis</td>
<td>Learners will be able to

- explain the role of chlorophyll and light in photosynthesis;

-describe the factors' role in photosynthesis;

-to examine the necessity of chlorophyll and light in the process of photosynthesis.</td>
<td>1.Firstly, read pages 71-72 and 74-75 of the Biology textbook
2. To carry out the experiment, essentials are to be collected: transparent glass (or any other transparent pot), watch (stopwatch is better but normal watch is enough), vinegar (or citron juice) any type of detergent (if not available, laundry soap will do), clean water and aquatic plant (such as water spinach/common hydra/water hyacinth/hydrilla etc.)
3. Following tables need to be drawn on the assignment page

Table -1:Experiment observation
<table>
<tr><th>Factors</th><th>No. of air bubbles per minute</th><th>Reason of bubble no to be different or not</th></tr>
<tr><td colspan="3">Effects of factor A</td></tr>
<tr><td>A-1 Plant submerged in clean water kept in direct sunlight</td><td></td><td></td></tr>
<tr><td>A-2 Plant submerged in clean water kept in shades</td><td></td><td></td></tr>
<tr><td colspan="3">Effects of factor B</td></tr>
<tr><td>B-1 Plant submerged in clean water kept at room temperature</td><td></td><td></td></tr>
<tr><td>B-2 Plant submerged in lukewarm water</td><td></td><td></td></tr>
<tr><td colspan="3">Effects of factor C</td></tr>
<tr><td>C-1 Plant submerged in half teaspoonful (big) vinegar (or lemon juice) mixed water.</td><td></td><td></td></tr>
<tr><td>C-2 Plant submerged in half teaspoonful(big)</td><td></td><td></td></tr>
</table>
</td>
<td>
<table>
<tr><th>Indicator</th><th colspan="4">Rating Scale</th><th>Score</th></tr>
<tr><th></th><th>4</th><th>3</th><th>2</th><th>1</th><th></th></tr>
<tr><td>a) Carrying out of the experiments (table-1)</td><td>All six experiments are carried out acceptably and descriptions noted</td><td>Out of six experiments 4-5 experiments are carried out acceptably and description noted</td><td>Out of six experiments 2-3 experiments are carried out acceptably and description noted</td><td>Out of six experiments, only one experiment is carried out acceptably and description noted</td><td></td></tr>
<tr><td>b) Comparative explanation of factors' effects (table-1)</td><td>Effect of three factors explained acceptably.</td><td>Effect of two factors explained acceptably.</td><td>Effect of one factor explained acceptably.</td><td>Effect of factors is explained but no one in an acceptable way.</td><td></td></tr>
<tr><td>c) Citing the factor's real name (Table -2)</td><td>The real names of the three factors are cited according to the textbook.</td><td>The real names of the two factors are cited according to the textbook.</td><td>The real name of one factor is cited according to the textbook.</td><td>The real name of no factors is cited according to the textbook, but the alternate name of one factor is cited acceptably.</td><td></td></tr>
<tr><td>d) When does the rate of photosynthesis decrease or increase</td><td>All six situations are cited acceptably.</td><td>Out of six situations, 4-5 situations are cited acceptably.</td><td>Out of six situations, 2-3 situations are cited acceptably.</td><td>Out of six situations, only one situation is cited acceptably</td><td></td></tr>
<tr><td colspan="5">Tota-l</td><td></td></tr>
<tr><td colspan="6">Total marks for this assignment:16</td></tr>
</table>
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<td></td>
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</table>

detergent (or soap) mixed water.		

Table-2 Rate of Photosynthesis

Factor	Real name	When does the rate of photosynthesis increase	When does the rate of photosynthesis decrease
a			
b			
c			

4. A sunny day is to be selected for the experiment. The same amount of water should be used for each experiment so that plant parts are submerged fully. The same plant should be used in each experiment. But every time water must be changed and all things must be washed properly with clean water.

5.After setting all six experiments, in every case after one hour in every one minute, bubble numbers are to be noted three times. The average of three counts will be the bubble number per minute, That number has to be written in the required parts of table-1.

6. Causes of differentiation or no differentiation of bubble number to be explained through comparisons in pair A-1 vs A-2, B-1 vs B-2 and C-1 vs C-2, Every explanation should be in 20-30 words.

7. In table 2 real name of (according to the textbook) factors should be written. At the same time, when the photosynthesis rate increases or decreases affected by the mentioned factors is to be cited.

8.Special attention is needed so that the experiments are carried out sequentially starting from the morning.

Marks Obtained	Comments
13-16	Excellent
11-12	Very good
08-10	Good
0-07	Needs improvement

Assignment for SSC Examinees, 2021

Subject: Higher Mathematics **Subject Code: 126** **Level: SSC**

Assignment Number, Chapter Number, Chapter Title	Assignment	Learning Outcomes	Guidelines (cues/steps or stages)	Assessment Criterion /Rubric	Com'ts
02 **Chapter Eleven:** Coordinate Geometry	**The solution of the straight line related problem by using coordinate Geometry:** The age of Mina is 1 year less than twice the age of Raju. Suppose Mina's age is y while Raju's is x. The relation between their age can be expressed through an equation. Considering x and y are two variables we get a straight line from the equation. A (m,5) is a point on the straight line. The straight line intersects the x and y axis at the points P and Q.	• Explain the rectangular Cartesian coordinate system. • Find the distance between two points. • Explain the concept of slope (gradient) of a straight line • Find the equation of a straight line. • Determine the area of a triangle using coordinate system. • Present an equation of a straight line by plotting points.	a. Find the coordinate of the point A and draw the straight line. Then identify point A. (Determine the equation then verify the point A(m,5) and find the value of m. Draw the straight line in the graph paper using suitable unit and identify the point A). b. If the points P and Q are equidistant from $R(h,-2)$ then find the value of h. (Determine the coordinates of P and Q. Find the value of h using the formula of measuring the distance.) c. If P, Q and S(2a, a-2) are collinear then find the coordinate of S. (Find the coordinate of S by using the formula of area or slope). d. Find the equation of the straight line which passes through the point $\left(\frac{1}{4},2\right)$ and is parallel to the line AP. (Determine the slope of AP then find the equation of the straight line which passes through the point $\left(\frac{1}{4},2\right)$.		

Indicator	Rating Scale				Score
	4	3	2	1	
a		Drew the line and identified the point A.	Found the coordinate of A.	Determined the equation.	
b		Found the value of h.	Determined PR or QR	Found the coordinate of P or Q.	
c		Found the coordinate of S.	Applied the appropriate condition of colinear.	Wrote the formula of area or slope by the points.	
d		Found the equation of straight line which passes through the point $\left(\frac{1}{4},2\right)$.	Costructed a formula of straight line which passes through the point $\left(\frac{1}{4},2\right)$ by using the slope.	Found the slope of AP.	
				Total-	

Total marks for this assignment: 12

Marks Obtained	Comments
10-12	Excellent
08-09	Very good
06-07	Good
00-05	Needs improvement

Assignment for SSC Examinees, 2021

Subject: Physics **Subject Code: 136** **Level: SSC**

<table>
<tr><th>Assignment Number, Chapter Number, Chapter Title</th><th>Assignment</th><th>Learning Outcomes</th><th>Guidelines (cues/steps or stages)</th><th>Assessment Criterion /Rubric</th><th>Com'ts</th></tr>
<tr><td>3

Chapter 02:
Motion
Chapter 04:
Work, Power and Energy</td><td>A stone of mass 75 kg is released from a height of 40 meters.
a) What is the total energy of the body at a height of 40 meters? 2
b) Explain, at the height of 40 meters the total energy of the body is having how many forms. 2
c) Explain the change of energy by drawing two graphs of the time-kinetic energy and the time-potential energy change of the body for every 10 meters if the body is to fall freely.4
d) Show that from the graph at what height potential energy and kinetic energy of the body are same and show what portion that is of the total height. 2</td><td>Students will be able to explain the motion of freely falling body
Students will be able to explain kinetic energy and potential energy</td><td>Follow the text on pages 47-49 of the textbook.

Follow the text on pages 100-108 of the textbook.</td><td>
<table>
<tr><th rowspan="2">Indicator</th><th colspan="4">Rating Scale</th><th rowspan="2">Score</th></tr>
<tr><th>4</th><th>3</th><th>2</th><th>1</th></tr>
<tr><td>a) Total energy of the body at the height of 40 meters</td><td></td><td></td><td>If student can determine the total energy</td><td>If student can write the equation of total energy</td><td></td></tr>
<tr><td>b) An explanation in how many forms are there in total energy of the body at the height of 40 meters</td><td></td><td></td><td>If student can explain how many forms are there in total energy.</td><td>If student can write what is the transformed energy</td><td></td></tr>
<tr><td>c) Explaining the change of energy by drawing graph</td><td>If student can explain changes in time-kinetic energy and time-potential energy by drawing graphs</td><td>If student can draw graphs of kinetic energy and potential energy with time</td><td>If student can draw a graph of kinetic energy or potential energy with time</td><td>If student can write the equations of kinetic and potential energy</td><td></td></tr>
<tr><td>d) In the graph, show the height at which the potential energy and kinetic energy of the body are equal and show what portion that is of the total height.</td><td></td><td></td><td>If student can show at what height potential energy and kinetic energy of the body are same and can show what portion that is of the total height</td><td>If student can show at what height potential energy and kinetic energy of the body are same or can show that height is what portion of the total height.</td><td></td></tr>
<tr><td colspan="5">Total-</td><td></td></tr>
<tr><td colspan="6">Total marks for this assignment:10</td></tr>
</table>
</td><td></td></tr>
</table>

Marks Obtained	Comments
09-10	Excellent
07-08	Very good
05-06	Good
0-04	Needs improvement