General Biology A

Test Study Guide: Unit 2 – Photosynthesis

Objective 1: Explain the function and purpose of ATP.

Students will be able to:

1) Draw and label all the parts of an ATP molecule.
2) Describe the purpose of ATP.
3) Describe the differences between an ATP and ADP molecule (both structurally and energy levels).

How to study:

a) Read pages: 100 – 102

b) Define the following terms:
- Adenine:
- Ribose:
- Phosphate group:
- Adenosine:
- ATP (Adenosine Triphosphate):
- ADP (Adenosine Diphosphate):

c) Know this diagram: Visual Vocabulary diagram on Page 98 and Figure 1.2 on page 99.

Objective 2: Describe the process of photosynthesis.

Students will be able to:

1) Describe the function and purpose of photosynthesis.
2) Explain where photosynthesis occurs in the cell (light and dark reactions).
3) Diagram the parts of the light dependent and independent reactions of photosynthesis.

How to study:

a) Read pages: 102 – 103 and 106 – 110
   Light Dependent Reaction: 102 – 103 and 106 – 108
   Light Independent Reaction: 103 and 109 - 110

b) Define the following terms:
- Photosynthesis:
- Chlorophyll:
- Chloroplast:
- Light Independent reactions (Dark):
- Light Dependent reactions (Light):
- Calvin Cycle:
- NADPH: (Nicotinamide adenine dinucleotide phosphate)
- Electron Transport Chain (ETC):
- Pigment:
- Thylakoids:
- Photolysis:
- Stroma:
- ATP Synthase:

- G3P:

c) Know this diagram: Figure 2.2 on Page 102 and Figure 3.4 on Page 109

Objective 3: Explain what molecules are used and what is produced in the process of photosynthesis.

Students will be able to:

1) Identify the parts of the equation of photosynthesis
2) Write out the equation for photosynthesis
3) Identify what parts of the equation are used (reactants) and produced (products) in the light dependent and independent reactions.

How to study:

a) Read Pages: 103

b) Define the following vocabulary terms:

-Photosynthesis Equation:

c) Know these diagrams: Figure 2.2 on Page 102.

d) Understand the following notes: Photosynthesis Notes

Objective 4: Explain how the molecules which are produced in photosynthesis are used to produce larger molecules such as proteins or DNA.

Students will be able to:

1) Describe what the products of photosynthesis are.
2) Explain how the products of photosynthesis are used by the body.
3) Describe the role of G3P in the production of macromolecules.

How to study:

a) Read Pages: 101-110.

b) Define the following vocabulary terms:

-Photosynthesis Equation:
-Oxygen:
-Glucose:
-ATP:
-GP3:
-Carbohydrates
-Proteins
-Lipids
-Nucleic Acids
-Amino Acids
-Nucleotides
-Glycerol
-Fatty Acids
-Monosaccharides
-Disaccharides
-Polysaccharides