

Exemplar exam questions – Chapter 8, *Cell respiration and photosynthesis*

Multiple choice questions

One mark is given for each correct answer.

- 1 Which of these accumulates in the intermembrane space of a mitochondrion during electron transport?

A oxygen
B electrons
C hydrogen ions (protons)
D ATP

Answer is C.

- 2 The action spectrum and absorption spectrum of photosynthetic pigments are similar because:

A the amount of energy absorbed by the pigments is the activation energy needed for photosynthesis.
B wavelengths of light absorbed by the pigments are the ones used in photosynthesis.
C photosynthetic pigments have the same requirements as enzymes used in photosynthesis.
D photosynthesis occurs when the whole spectrum is absorbed.

Answer is B.

- 3 What are required to convert carbon dioxide into organic molecules during photosynthesis?

A light and hydrogen from photolysis
B light and oxygen from photolysis
C ATP and oxygen from photolysis
D ATP and hydrogen from photolysis

Answer is D.

- 4 Which of these molecules is produced during glycolysis?

A glycogen
B glucose
C carbon dioxide
D ATP

Answer is D.

- 5** The light-dependent reactions of photosynthesis are essential to:
- A** convert ATP to ADP
 - B** fix carbon
 - C** split water molecules
 - D** convert pyruvate into acetyl CoA

Answer is **C**.

- 6** The products of aerobic respiration in a mammalian cell are:
- A** water, ATP and oxygen
 - B** water, ATP and carbon dioxide
 - C** lactate and ATP
 - D** ethanol and ATP

Answer is **B**.