

Chapter – 12 | Respiration in Plants

QUIZ
PART-07

1. Respiratory quotient is the ratio of —

- A. CO_2 released / O_2 used
- B. O_2 used / CO_2 released
- C. ATP formed / glucose used
- D. Water formed / CO_2 released (A)

Explanation : $\text{RQ} = \text{volume of } \text{CO}_2 \text{ released} \div \text{volume of } \text{O}_2 \text{ consumed}.$

2. Respiratory quotient depends on —

- A. Type of respiratory substrate
- B. Leaf shape only
- C. Chlorophyll amount only
- D. Size of stem only (A)

Explanation : Different substrates like carbohydrates, fats and proteins have different RQ values.

3. RQ of carbohydrate is —

- A. 1.0
- B. 0.7
- C. 0.9
- D. Infinite (A)

Explanation : In carbohydrate oxidation, CO_2 released and O_2 used are equal.

4. RQ of fats is generally —

- A. Equal to 1
- B. Less than 1
- C. Greater than 1
- D. Infinite (B)

Explanation : Fats require more oxygen for oxidation because they contain less oxygen.

5. RQ of tripalmitin is approximately —

- A. 1.0
- B. 0.7
- C. 1.33
- D. 4.0 (B)

Explanation : The PPT gives RQ of tripalmitin as $102/145 = 0.7.$

6. RQ of proteins is about —

- A. 0.9
- B. 2.0
- C. 4.0
- D. Infinite (A)

Explanation : Protein RQ is less than one, around 0.9.

7. RQ of carboxylic acids is —

- A. Always less than 1
- B. Always greater than 1
- C. Always zero
- D. Always infinite (B)

Explanation : Carboxylic acids contain more oxygen, so less external oxygen is required.

8. RQ of oxalic acid is —

- A. 4.0
- B. 0.7
- C. 0.9
- D. 1.0 (A)

Explanation : Oxalic acid oxidation releases 4 CO_2 using 1 O_2 , so $\text{RQ} = 4.$

9. RQ in anaerobic respiration is —

- A. 1
- B. 0.7
- C. Infinite
- D. 0.9 (C)

Explanation : In anaerobic respiration, CO_2 is released but O_2 is not consumed.

10. Ganong respirometer is used to measure —

- A. Respiratory quotient
- B. Chlorophyll content
- C. Leaf size
- D. Starch quantity (A)

Explanation : Ganong respirometer is commonly used in laboratories for RQ measurement.