

- 1) Translocation of food takes place from source to _____ (1996)
- 2) Porphyrin ring of chlorophyll molecule contains _____ at its center (1996)
- 3) Where does photolysis of water occur? (1998 & 2004)
- 4) Name the electron acceptor in photosynthesis. (1998)
- 5) Name the site of the dark reaction of photosynthesis. (1997)
- 6) Name the best-known contribution of Roy Emerson. (1999)
- 7) Name the scientist who reported the existence of two photosystems. (2001)
- 8) Write a simple experiment to demonstrate that light is necessary for photosynthesis. (1994)
- 9) Describe a simple experiment to demonstrate that CO₂ is essential for photosynthesis. (1996, 1999)
- 10) Describe the flow of electrons in non-cyclic photophosphorylation and compare it with that of cyclic photophosphorylation. (2002)
- 11) The overall rate of photosynthesis is higher per unit of energy received in flashes than continuously. Justify the statement. 3M(2003)
- 12) Why is photosynthetic rate higher in C₄ plants than in C₃ plants? (1998 & 2003)
Name and describe the artificial method of propagation employed by gardeners for the following
1. Lemon 2. Litchi 3. Jasmine 4. China rose 4M(2003)
- 13) Give schematic representation of non-cyclic photophosphorylation. . 4M(2002)
- 14) Write note on
 - a. Compensation point (1996, 98, 2000 & 2003)
 - b. Blackman's principle of limiting factors. (1996 & 2000)
 - c. Photorespiration (2001)
 - d. Red drop (1997)
- 15) Differentiate between
 - a. Photorespiration and Respiration (1995)
 - b. C₃ and C₄ plants (1995)
 - c. Action spectrum and absorption spectrum (1998)
 - d. Cyclic and non-cyclic potophosphorylation. (1997, 98,09)
- 16) Describe briefly the effect of light intensity, CO₂ conc., mineral elements and temperature on the rate of photosynthesis. (1994, 95 & 99)
- 17) Enlist the steps involved in C₄ pathway of CO₂ fixation. Explain how C₄ plants overcome the photorespiratory losses by this mechanism. (1996, 98 & 2004)
- 18) Discuss the major events in the Calvin cycle. (1995 & 98)
- 19) Describe the mass flow hypothesis for translocation of organic solutes in plants. What is the major criticism against this hypothesis? 4 M(1995, 97, 99 & 2002,2005)
- 20) Draw a labelled diagram showing the fine structure of a chloroplast. Give a simple equation for the overall process of photosynthesis. (1996, & 98)
- 21) Give a schematic representation of light reaction in photosynthesis involving two photosystems. (1996, 2005)
- 22) How do light intensity and temperature affect the rate of photosynthesis? Mention two compatible differences between PS I and PS II. (1997)
- 23) The overall rate of photosynthesis is higher per unit of light energy received in flashes than continuously. Justify the statement. (1997 & 2003)
- 24) Give a graphic out line of the biosynthetic phase of photosynthesis. 4M (2001, 06)
- 25) Give a schematic representation of C₄ pathway. 4M (2004)

- 26) Explain kranz anatomy. 2M (2004)
- 27) Draw a labeled diagram of chloroplast as seen under an electron microscope. Name the three major photosynthetic pigments. 4M (2005)
- 28) Write the differences between C3 and C4 cycles. 4M (2007)
- 29) Give a schematic representation of the Hatch Slack (C4) cycle. 4M (2008)
- 30) Mention the site of formation of glyoxylate from glycolate in photorespiration. (2009)
- 31) Give difference between cyclic and non cyclic photophosphorylation. 4M(2009)
- 32) State and explain Blackman's Law of Limiting factors. 3M (2010)
- 33) List 3 differences between macronutrients and micronutrients. 3M (2010)
- 34) Explain the mass flow hypothesis of transport of food. 3M (2011)
- 35) Differentiate between cyclic and non-cyclic photophosphorylation. 3M (2011)
- 36) Write 3 differences between C3 and C4 cycles. 3M (2012)