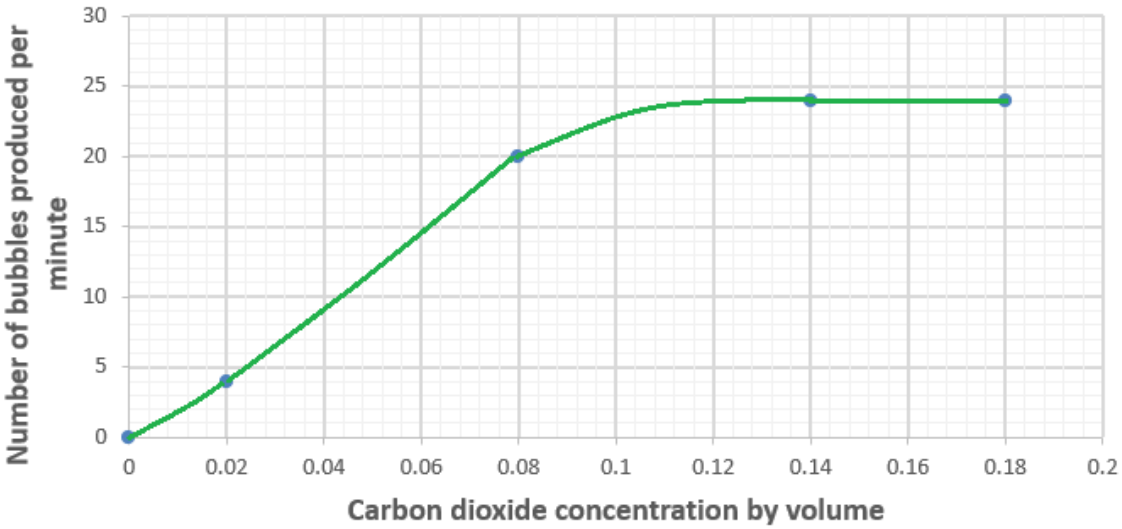
MARKING GUIDE OF ADVANCED LEVEL PRACTICAL BIOLOGY NATIONAL EXAMINATION 2022-2023

1. a) The aim of the experiment is to investigate the effects of carbon dioxide concentration on the rate of photosynthesis.

   b)



   c) There was no evolution of oxygen because there was no photosynthesis. Photosynthesis requires carbon dioxide to take place. Without carbon dioxide, there will be no photosynthesis.

   d) Between the CO_2 concentration of 0.02 and 0.08, there was rapid increase in the rate of photosynthesis because of increasing the carbon dioxide concentration. Carbon dioxide was the limiting factor. From 0.08 to 0.14 there was a gradual increase in the rate of photosynthesis because some other limiting factors had set in. From 0.14 to 0.18 there was a constant rate of photosynthesis because carbon dioxide is no longer a limiting factor.

   e) The number of oxygen bubbles produced per minute would decrease because photosynthesis is an enzyme-controlled reaction.