

IGCSE Biology 0610 Paper 5 Practice Paper

(Core)

Total: 40 marks · 1 hour 15 minutes · 4 questions · 20 parts

Question 1 · Food tests and practical skills [10]

- (a) State the reagent used to test for starch and the colour change seen in a positive result. [2]
- (b) Describe how to carry out the Benedict's test and state the positive result for a reducing sugar. [3]
- (c) A 2.0 g sample of food contains 0.50 g of protein. Calculate the percentage of protein in the sample. Show your working. [2]
- (d) Explain why the Benedict's test is heated in a water bath instead of holding the tube in a Bunsen flame. [2]
- (e) State one safety precaution to follow when carrying out food tests. [1]

Question 2 · Osmosis and water potential [10]

- (a) A potato strip has an initial mass of 4.8 g. After 30 minutes in distilled water its mass is 5.4 g. Calculate the percentage change in mass. Show your working. [2]
- (b) Another potato strip changes from 5.0 g to 4.4 g in 0.5 mol/dm³ sucrose solution. Calculate the percentage decrease in mass. [2]
- (c) Use the movement of water molecules to explain why the mass of the potato strip increased in (a). [3]
- (d) State why the potato strips are blotted dry with paper towel before being weighed. [1]
- (e) One concentration is repeated three times and gives mass changes of 12.5%, 12.1% and 15.0%. Identify the anomalous result and calculate the mean of the other two values. [2]

Question 3 · Respiration and enzyme activity [10]

- (a) The table shows bubbles per minute from yeast at different temperatures: 20 °C 18, 30 °C 42, 40 °C 30, 50 °C 6. Calculate the percentage increase in bubble count from 20 °C to 30 °C. [2]
- (b) Explain why the number of bubbles rises between 20 °C and 30 °C. [2]

- (c) Explain why the number of bubbles falls greatly at 50 °C. **[3]**
- (d) Apart from temperature, state one variable that must be controlled and describe how to control it. **[2]**
- (e) State one limitation of measuring the rate of respiration by counting bubbles. **[1]**

Question 4 · Microscopy and plant tissue observation [10]

- (a) A cell in a photomicrograph has an image length of 45 mm and an actual length of 0.15 mm. Calculate the magnification. Show your working. **[2]**
- (b) State two features of a good biological drawing. **[2]**
- (c) Twelve stomata are counted in a field of view of area 0.25 mm². Calculate the number of stomata per mm². **[2]**
- (d) Explain why the lower epidermis of a leaf usually has more stomata than the upper epidermis. **[2]**
- (e) State one technique to use when making a peel slide and explain why it matters. **[2]**