**Q 2005 9**

1. (i) Yeasts are eukaryotic organisms. What does this mean? (ii) To which kingdom do yeasts belong?
2. Answer the following questions in relation to an experiment that you carried out to investigate the growth of leaf yeast.
   1. From which plant did you collect the leaf sample?
   2. Describe how you collected the leaf sample.
   3. What did you do with the leaves when you returned to the laboratory?
   4. Nutrient agar plates are used in this experiment. What are nutrient agar plates and what is their purpose?
   5. What did you observe in the agar plates at the end of the experiment?
   6. Having finished the experiment, what did you do with the agar plates?

**MS 2005 9**

|  |  |  |  |
| --- | --- | --- | --- |
| **9.** (a) | (i) | (Possesses) nucleus / membrane-bound organelles or named | **3** |
|  | (ii) | Fungi | **3** |
| (b) | (i)  (ii)  (iii) | Name of plant  Cut or pick /container or avoidance of contamination / prevent leaves being crushed or shaken  Storage details / cutting procedure / attach to lid / method of attachment/avoidance of contamination  any two | **3**  **3**  **2**(**3)** |
|  | (iv) | Dishes (or agar) with additives (food or example) | **3** |
|  |  | To provide a medium or to allow growth | **3** |
|  | (v) | Pink colonies (circles) or negative result qualified | **3** |
|  | (vi) | Description of safe disposal | **3** |

**Q 2012 8**

1. (a) (i) Are fungi prokaryotic or eukaryotic?

(ii) Name **one** structure in plant cells not found in fungi.

(b) (i) What is the purpose of using agar when growing fungi or bacteria in the laboratory?

1. Suggest **one** reason why leaf yeasts are more plentiful in July than in March.
2. Describe how you introduced the leaf yeasts into agar plates.
3. What was the precise purpose of a control in this investigation?
4. How did you recognise the leaf yeasts when they appeared on the agar?
5. How did you safely dispose of the plates at the end of the investigation?
6. Using the axes below, draw a graph to show how the number of leaf yeasts varied following their introduction into the plate.

Number

### Time

**MS 2012 8**

|  |  |
| --- | --- |
| **8.** (a) (i) \*Eukaryotic | **3** |
| (ii) Chloroplast | **3** |
| (b) (i) (Source of) nutrients **or** substrate (for growth) **or** medium **or** visibility | **3** |
| (ii) More leaves **or** more suitable temperature **or** more reproduction | **3** |
| (iii) Description of an aseptic technique in transfer (of leaf) **or** method of attachment of leaf to lid | **3** |
| (iv) To show that the yeast came from the leaf (or did not come from agar) | **3** |
| (v) Pink (colonies) | **3** |
| (vi) (Immerse in) disinfectant **or** autoclave | **3** |
| (vii) Lag | **3** |
| Log + stationary **or** log + decline | **3** |

**Q 2015 8 b**

1. **Answer the questions below in relation to the growth of leaf yeast in the laboratory.**
   1. What principal nutrient was added to the agar for the yeast?
   2. How did you introduce the yeast into the Petri dishes?
   3. What did the yeast look like when it had grown on the agar?

**MS 2015 8 b**

1. (i) Malt (extract)
   1. Attach leaves (or leaf pieces) to (inside of) lid

Replace lid (on dish) **or** (dish) upright for 24 hours

**or** one aseptic technique described

* 1. Pink colonies **or** pink with ‘colonies’ described