**Q 2016 Q 14 b i**

* 1. (i) Cells can be classified as either prokaryotic or eukaryotic.

Give **two** features of eukaryotic cells which distinguish them from prokaryotic cells.

**MS 2016 Q 14 b i**

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| **14.** | (c) | (i) | 1. | *Turgor:* Pressure of cell contents against the cell wall | **3** |
|  |  |  | 2. | *How plant cells stay turgid:* By taking in as much water as they lose | **3** |
|  |  |  |  | By osmosis (or explained) | **3** |
|  |  |  | 3. | *Consequence for plant of turgidity loss:* Wilt **or** lose rigidity **or** fail to stay upright**or** droop | **3** |
|  |  |  | 4. | *Animal cell:* Bursts | **3** |
|  |  |  |  | *Why:* No cell wall | **3** |
|  |  | (ii) | 1 | *Diffusion:* Movement (of material) from region of high concentration to a |  |
|  |  |  |  | region of low(er) concentration | **3** |
|  |  |  |  | *Osmosis:* Movement of water from a region of high water concentration to a |  |
|  |  |  |  | region of low(er) water concentration across a semi-permeablemembrane | **3** |
|  |  |  | 2 | *Active transport; location:* Nephron **or** named part | **3** |
|  |  |  |  | *Active transport; material:* Glucose **or** amino acid(s) **or** salt(s) **or** water | **3** |

**Q 2014 8**

1. (a) Answer the following questions with reference to the microscope.

E

A

O

1. State the function of the part labelled A in the diagram.
2. Lens E is marked 10× and lens O is marked 40×. A cell is viewed through lenses E and O.

The image of the cell is 0.8 mm in diameter. What is the actual diameter of the cell?

1. Answer the following questions in relation to the procedures that you followed when preparing animal cells for examination with a light microscope.
	1. Describe how you obtained a sample of cells.
	2. What stain did you use on the sample?
	3. Outline how you used the coverslip.
	4. Explain why a coverslip is used.
	5. Describe how you examined the cells using the microscope.
	6. Draw a labelled diagram of the cells as seen at high magnification.

MS 2014 8

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| **8.** | (a) | (i) | Coarse focus **or** focus with low power | **3** |
|  |  | (ii) | 0.002 mm | **3, 2, 1, 0** |
|  | (b) | (i) | Rubbed inside cheek with swab (or example) | **3** |
|  |  | (ii) | Methylene blue | **3** |
|  |  | (iii) | (Coverslip) at angle / how lowered | **2(3)** |
|  |  | (iv) | To protect the sample from drying out |  |
|  |  |  | **or** to protect the lens (from the stain) | **3** |
|  |  | (v) | Focus using coarse (focus) **or** focus using A |  |
|  |  |  | **or** focus using lower power | **3** |
|  |  |  | (focus) using medium (or high) power (or using fine focus) | **3** |
|  |  | (vi) | Appropriate labelled diagram [*at least 1 label required*] | **3** |

**Q 2011 14 c**

(i) State the precise location of the cell membrane in plant cells.

1. With what type of cell do you associate membrane-bound organelles?
2. What corresponding term is used to describe bacterial cells?
3. The cell membrane is described as being *selectively permeable*. What does this mean?

**MS 2011 14 c**

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| **14.** | (c) | (i) | Immediately inside the cell wall | **3** |
|  |  | (ii) | \*Eukaryotic | **3** |
|  |  | (iii) | \*Prokaryotic | **3** |
|  |  | (iv) | Only some substances are allowed through | **3** |

**Q 2010 14 c**

(i)In relation to membranes in cells, explain what is meant by *selective permeability*.

(ii) Give **two** locations in a cell at which there is a selectively permeable membrane

**MS 2010 14 c**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **14.** | (c) | (i) | Allowing some substances to pass through | **3** |
|  |  | (ii) | Chloroplast / mitochondrion / nucleus / vacuole[*allow cell membrane*]***Any two*** | **2(3)** |

**Q 2006 8**

(a) State a function of each of the following components of a cell.

1. Ribosome

 (ii) Cell membrane

(b) Answer the following questions in relation to the preparation, staining and microscopic observation of a slide of an animal cell.

(i) What type of animal cell did you use?

 How did you obtain the cell?

1. Name the stain that you used

 Describe how you applied the stain

1. After staining, a cover slip is placed on the slide. Give a reason for this

(iv) How did you apply the cover slip?

 Why did you apply it in this way?

(v) Describe the difference in colour or depth of colour, if any, between the nucleus and cytoplasm when the stained cell was viewed under the microscope.

**MS 2006 8**

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| --- | --- | --- | --- |
| **8.** (a) | (i)(ii) | protein synthesisselectively permeable **or** explained **or** containment**or** antigenicity **or ‘**barrier’ qualified **or** has receptors | **3****3** |
| (b) | (i) | type of cell | **3** |
|  |  | how obtained | **3** |
|  | (ii) | name of stain – methylene blue | **3** |
|  |  | how applied | **3** |
|  | (iii) | to prevent drying out **or** to protect lens **or** easier to view**or** keeps cells in place | **3** |
|  | (iv) | at an angle **or** described | **3** |
|  |  | to prevent trapping air **or** bubbles | **3** |
|  | (v) | cytoplasm paler **or** nucleus darker **or** nucleus blue | **3** |