**Cell Diversity**

**Q 2016 14 (b)**

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

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

1. Give **one** function of one **named** tissue found in plants.
2. Give **one** function of one **named** tissue found in animals.
3. In the case of **each** of the tissues referred to in (ii) and (iii) above, state **one** way in which the tissue is adapted to carry out the function that you have indicated.
4. How does an organ differ from a tissue?
5. 1. What is meant by the term *tissue culture*?

2. State **two** requirements for successful tissue culture.

**MS 2016 14 (b)**

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| (b) | (i) | *Eukaryotic cell features:* Possess a nucleus/ membrane-enclosed organelles  (or chloroplasts or mitochondria) | | |
|  | (ii) | *Function of plant tissue:* Named tissue + matching function (plant) | | |
|  | (iii) | *Function of animal tissue:* Named tissue + matching function (animal) | | |
|  | (iv) | *Adaptations:* Named plant tissue + matching adaptation | | |
|  |  |  |  | Named animal tissue + matching adaptation |
|  | (v) | *Organ v. tissue:* | | Organ is a group of tissues (working together) |
|  | (vi) | 1. | *Tissue culture:* Growth of cells on a (nutrient) medium **or** growth of cells | |
|  |  |  |  | outside the organism **or** growth of cells in vitro |
|  |  | 2. | *Requirements:* Sterile (conditions)/ nutrients/ hormones or growth regulators/ | |
|  |  |  |  | suitable medium/ suitable temperature/ suitable pH/ |
|  |  |  |  | oxygen supply |

**Q 2010 4**

1. What is a tissue?
2. Name a tissue found in plants
3. Give a function of the tissue referred to in part (b)
4. Name a tissue found in animals
5. Give a function of the tissue referred to in part (d)
6. Explain what is meant by the term *tissue culture*
7. Give **one** application of tissue culture

**MS 2010 4**

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| **4.** |  | **6 (3) + 2** |  |
|  | (a) | Cells with common function (or with common structure) |  |
|  | (b) | Dermal **or** ground **or** vascular (or xylem or phloem) **or** meristematic |  |
|  | (c) | Function relevant to tissue named in (b) |  |
|  | (d) | Epithelial **or** Muscular **or** Connective **or** Nervous **or** named example |  |
|  | (e) | Function relevant to tissue named in (d) |  |
|  | (f) | Cells grown on (or in) medium **or** cells grown outside organism |  |
|  | (g) | Appropriate application |  |

**Q 2012 2**

(a) (i) What is a tissue?

1. Give an example of an animal tissue.
2. State a role of the animal tissue referred to in (ii).
3. Give **one** way in which the tissue referred to in (ii) is adapted to carry out its function(s).

(b) (i) Explain the term *tissue culture*.

(ii) Give **two** examples of the use of tissue culture.

**MS 2012 2**

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| **2.** |  |  | **8 + 7 + 5(1)** |
|  | (a) | (i) | A group of cells with the same function |
|  |  | (ii) | Example of animal tissue e.g. muscle, connective, epithelial, nervous |
|  |  | (iii) | Matching structural **or** physiological role of given animal tissue |
|  |  | (iv) | Matching structural **or** matching physiological adaptation of given animal tissue |
|  | (b) | (i) | Cells grown on (or in) medium **or** cells grown outside organism |
|  |  | (ii) | 1. First example |
| 2. Second example | | | |