**Cell Diversity**

**At the end of this section you should be able to ….**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Y | | N |
| Define a tissue. | |  |  |
| Give **4 examples** of tissue types  ( two each from a plant and an animal). | |  |  |
| Tissue culture: explanation | |  |  |
| Refer to any **two applications** of tissue culture | |  |  |
| Define an organ. | |  |  |
| Give **2 examples** of organs  (one each from a plant and an animal) | |  |  |
| Define an organ system. | |  |  |
| Give **2 examples** of animal organ systems | |  |  |

**Tissue:**  A group of similar cells specialised to carry out the same function

|  |  |
| --- | --- |
| **Plant Tissue** | **Animal Tissue** |
| Meristematic tissue (dividing) | Epithelial tissue (lining) |
| Dermal tissue (protecting) | Connective tissue (holding) |
| Ground tissue (packing) | Muscular (moving) |
| Vascular tissue (transporting) | Nervous( Communicating)) |

**Tissue culture;** a technique in which individual cells are grown and divide in a bath of sterile nutritive fluid which often contains hormones and growth substances

**Applications:**

* cancer research: HELA cells
* plant breeding: Micropropagation
* routine analysis of chromosome karyotypes

**Organ:** A structure, containing different tissues, which has a specific function

**Examples**

**Human organs**: Heart, stomach

**Plant organs**: root, stem

**Organ System:** A group of organs and tissues working together to carry out a specific function.

**Examples**

Urinary system, reproductive system, nervous system