

### CLASS - IX

**Biology** Date:-14/04/2020

→ Watch the part 2 and part 3 video of chapter Cell from Optimum Online E-Learning Platform.

#### Homework:-

- 1. Read the activity 5.1 carefully and make it in biology practical copy with suitable diagram.(Hints-uploaded video part-2 on Optimum Online E-Learning Platform)
- 2. Do the intext questions in your notebook.(Hints:-uploaded video part-2 on Optimum Online E-Learning Platform)
- 3. Write the difference between diffusion and osmosis. (Hint:-uploaded video part-3)
- 4. Write down the difference between plant and animal with the diagramatic view.(Draw neat and clean labelled diagram of plant and animal cell).(Hints:-uploaded video part-
- 5. Define the following:
  - a. Hypertonic solution
  - b. Hypotonic solution
  - c. Isotonic solution.(Hints:-uploaded video part-3)
- 6. Write brief notes on endocytosis in AMOEBA with diagrammatic view & also define the term pseudopodia.

(Hints:-uploaded video part-3)

#### •Tally your answers from here: (questions given on 13.04.2020)

- 1. Cell is the structural and functional unit of life.
- 2. Some important facts about the discovery of cell.

## Did You Know?

# Some facts about the discovery of cell

The study of cell was impossible without the microscope. Robert Hooke was the first one to discover the empty honeycomb-like structures viewed in a thin section of cork with the help of his primitive microscope in 1665. He named these microscopic compartments in the cork as 'cells'. In 1674, Anton von Leeuwenhoek discovered the free living cells (protozoa, etc.) in pond water for the first time using his improved microscope. In 1831, Robert Brown discovered the nucleus in the cell. In 1839, Purkinje coined the term 'protoplasm' for the fluid content of the cell. A German botanist Matthias Schleiden (1838) and a British zoologist Theodore Schwann (1839) studied a wide variety of plant and animal tissues and proposed the 'cell theory' in 1839. It stated that all organisms are composed of cells. Cell theory was further expanded by Rudolf Virchow in 1855 who said that all cells arise from pre-existing cells. It was possible to study the complex structure of the cell and its various organelles with the discovery of electron microscope in 1940.

- **3.** Cell theory was proposed by German botanist *Matthias Schleiden*(1838) and British zoologist *Theodore Schwann*(1839).
- 4. Differences between unicellular and multicellular organism:-

		ar vs Unicellular
	More Information Online  Multicellular	Unicellular
DEFINITION	Multicellular organisms are the organisms which are composed on more than one cell.	Unicellular organisms are composed of only one cell.
CELL SIZE	10 - 100 micrometers	5 - 10 micrometers
ORIGIN	They have evolved from unicellular organisms 1.2 thousand million years ago.	They have evolved earlier: around 3.5 thousand million years ago.
NUMBER OF CELLS	More than one cell	Only one cell
CELLULAR ORGANIZATION	No true cellular organization	Cellular organization can be observed
CELL DIFFERENTIATION, TISSUES FORMING	Present	Absent
REPRODUCTION AND SPINDLE FORMATION	Takes place through mitosis, meiosis or both with spindle formed.	Mostly binary fission and has no spindle.
NITROGEN-FIXING ABILITY	Do not have this abilityl	Can fix atmospheric nitrogen
ARRANGEMENT OF GENETIC COMPONENTS	In the nucleus as linear DNA	In the cytoplasm as circular DNA