Class - IX (B+D) Subject - Biology Date - 11/6/2020

# Ch-5: The Fundamental Unit of Life : Cell

- Cell is the structural & functional unit of life.
- Cell was discovered by Robert Hooke in 1665 ~~for~~ in cork which is obtained from the bark of a tree.
- 'Cell' word is obtained from a latin word 'cella' which means 'little room'.
- Robert Hooke discovered the dead cell
- Anton von Leeuwenhoek discovered the free living cells in the pond water for the first time in 1674.

## Cell theory

- Cell theory was proposed by Jacob Schleiden (Botanist) & Thedor Schwann (zoologist) in the year (1838 - 39). It was further modified by Rudolf Virchow in the year 1855.
- The cell theory states that :
  1. All organisms are made up of cells & cell products.
  2. Cells ~~is~~ are the structural & functional units of life
  3. All cells arise from pre-existing cells (omnis cellula e cellula).
  4. Every organiesm starts its life as a single cell. Viruses are an exception to cell theory.

## Cell Shape & size

- Cell can be of varied shapes. It can be irregular (amoeba), polyhedral (with 8, 12 or 14 sides) spherical (e.g:- eggs of many animals), spindle-shaped (smooth muscle fibre), elongated (neuron), discoidal (RBC) etc.

- The size also varies from 0.1 um to certain centimetres. The smallest cell is mycoplasma (0.1 um). The largest cell is egg of ostrich (18cm) The longest cell is neuron (sometimes their tails are about 1m long).

* Cytology — Study of cells

Types of ~~Cells~~ Organisms

B On the basis of cell number

1. Unicellular organisms :— Those organisms which are made up of single cell.
- There is no division of labour. Single cells ~~does~~ performs all the functions.
- The life span of these organisms are short.
- The process of reproduction involves single cell.
- They have irregular body shape.
- It includes both eukaryotes & prokaryotes
- Mainly have asexual reproduction.
- They are microscopic organisms.
- e.g:- Bacteria, Amoeba, Paramecium, yeast.

2. Multicellular Organisms → Those organisms which are made up of many cells.
- There is division of labour. Cells are specealized to ~~for~~ perform different functions.
- Only germ cells take part in reproduction.
- They have definite body shape.
- These are only eukaryotes
- They have both asexual & sexual ~~reproduct~~ mode of reproduction.
- They are macroscopic i.e. can be seen by naked eyes
- e.g:- Humans, Animals, Plants, insects, birds

# SQUARE AND SQUARE ROOT

✓Square of a number.

If a natural number m can be expressed as $n^2$ (where n is a natural number), then m is the square root or perfect square.

i.e. if $m = n^2$ (m, n – natural numbers)

E.g. $81 = 3 \times 3 \times 3 \times 3$

$= 3^2 \times 3^2 = (3 \times 3)^2 = 9^2$

Hence, 9 is the square root of 81.

✓Properties of Square Root.

Below is the table that has squares of numbers from 1 to 20



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| Number | Square | Number | Square |
|---|---|---|---|
| 1 | 1 | 11 | 121 |
| 2 | 4 | 12 | 144 |
| 3 | 9 | 13 | 169 |
| 4 | 16 | 14 | 196 |
| 5 | 25 | 15 | 225 |
| 6 | 36 | 16 | 256 |
| 7 | 49 | 17 | 289 |
| 8 | 64 | 18 | 324 |
| 9 | 81 | 19 | 361 |
| 10 | 100 | 20 | 400 |



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L² B

8 x 13.4

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Q4 Case. I.

rad. of balloon = 7 cm.

S.A = $4\pi r^2$

$= 4 \times \frac{22}{7} \times 7 \times 7 \text{ cm}^2$

$= 4 \times 22 \times 7 \text{ cm}^2$

$= 616 \text{ cm}^2$

Case II

radius of balloon (R) = 14 cm.

Surface Area of balloon = $4\pi r^2$

$= 4 \times \frac{22}{7} \times 14 \times 14 \text{ cm}^2$

$= 4 \times 22 \times 2 \times 14 \text{ cm}^2$

$= 2464 \text{ cm}^2$

Do. Q. 3
Q5. from
Ex 13.4.

∴ Ratio of surface area = $\frac{616 \text{ cm}^2}{2464 \text{ cm}^2}$

$= \frac{1}{4}$

Hence, the ratio of surface are = 1 : 4

XC,D sajid 11/6

X B, C, D.

Ex 5.3

$S_n = \frac{n}{2}[2a + (n-1)d]$.

Q1. (i) AP = 2, 7, 12, ..... to 10 terms.

$\therefore a = 2, \quad d = 7 - 2 = 5, \quad n = 10$.

$S_n = \frac{n}{2}[2a + (n-1)d]$

$S_{10} = \frac{10}{2}[2 \times 2 + (10-1)5]$

$= 5[4 + 9 \times 5]$

$5[4 + 45] = 245$.

Q.2 (iii) AP = 34 + 32 + 30 + ..... + 10.

$a = 34$

$d = 32 - 34 = -2$, $a_n = 10$, $n = ?$

$a_n = a + (n-1)d$

$10 = 34 + (n-1)(-2)$

$10 - 34 = (n-1)(-2)$

$-24 = (n-1)(-2)$

$+24 \quad +24$

$n - 1 = 12$

$n = 13$

H/W.
Do. Q1. (all) &
Q2 (all)
fm. 5.3

Now, $S_n = \frac{n}{2}[2a + (n-1)d]$

$S_{13} = \frac{13}{2}[2 \times 34 + (13-1)(-2)]$

$= \frac{13}{2}[68 - 24]$

$= \frac{13}{2} \times 44 = 286$

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Class:- VIII A, B, D Subject:- English Sandhi Ghatak.

Book:- Honeydew.

Chapter:- 05. "The Summit within"

* Notes are in the PDF.
* Listen to the audio note very carefully.
* Note down the summary in your copy.



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# The Summit Within Summary In English

## Introduction

Major H.P.S. Ahluwalia was a member of the first successful Indian expedition to Mount Everest in 1965. In this lesson he tells us how he felt as he stood on the Everest.

## On Everest

Standing on the Everest, Major Ahluwalia felt very humble. Physically he was very tired. Instead of being very happy, he was jubilant and sad. He was not sure of the reason. He wondered if this sadness was because now there was no higher peak to climb.

## A Life-long Joy

Ahluwalia says that after climbing Everest, he felt a deep sense of joy. This joy was to last the rest of his life. He also felt thankful to God.



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## Other Summit

Ahluwalia had climbed a summit but he thought of another summit. This was the summit of mind. He came to the conclusion that in order to climb a summit, a person needed three qualities. These are—endurance, persistence and will power. It is only with the help of these qualities that a man overcomes obstacles. The climbing of a summit is thus a demonstration of these three qualities. That is why men take delight in overcoming obstacles.



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Class :- VII B,D Subject :- English Sana Akhter.

Book :- Honeycomb.

chapter :- 05 Quality

* Notes are in the PDF

* Listen to the audio note very carefully.

* Note down the difficult words and write it down in your copy.



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# Quality Summary In English

Soul of the Chapter (पाठ का सारांश)

Gessler Brothers and the Art of Boot Making
The author had known the shoemaker for many years because he used to make boots for his father. Mr Gessler was the shoemaker who lived with his elder brother in their shop in London. The shop didn't have any signs apart from the name of the Gessler Brothers. He used to make boots only on orders. Once the author questioned Mr Gessler if it wasn't awful to make those shoes perfectly fitting into the feet they were meant for. The man answered with a heavy German accent that it is an art.

Mr Gessler will be engrossed in his boot making art most of the time and won't talk much with his customers. He strongly admired every piece of materials he used to work with. The boots made by Gessler brothers were of supreme quality and lasted very long. But in once occasion the author had a different experience. He complained about it



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