

# HARI VIDYA BHAWAN

## Worksheet - 4

### Class-IX

### Subject- Science

### Session- 2020-21

## Ch- 5 The fundamental unit of life

Date-01/04/2020

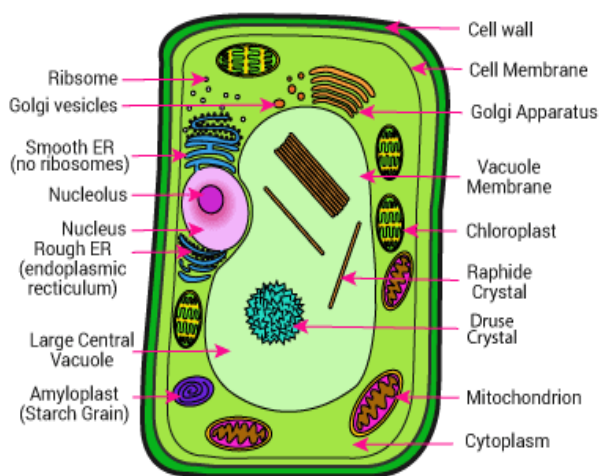
### Unicellular and Multicellular organisms

**Unicellular Animals:-** Organisms made up of single cell, are called unicellular. e.g. Amoeba, paramecium etc.

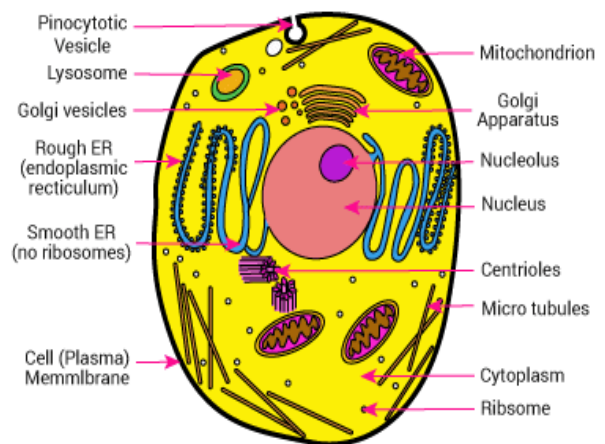
**Multicellular organisms:-** Organisms made up of many cells, are called multicellular. E.g. Algae, fungi, plants, animals etc.

### Difference Between plant and animal cell

| S.No. | Plant cell                            | Animal cell                                      |
|-------|---------------------------------------|--|
| 1.    | Cell wall is present.                 | Cell wall is absent.                             |
| 2.    | Large vacuole is present              | Vacuole is absent or a small vacuole is present. |
| 3.    | Plastids are present                  | Plastids are absent.                             |
| 4.    | Plant cell lack Centrioles            | Centrioles are present.                          |
| 5.    | Nucleus lies on one side of the cell. | Nucleus lies in the centre of the cell.          |
| 6.    | Animal cells are usually smaller.     | Plant cells are larger in size.                  |



**PLANT CELL**



**ANIMAL CELL**

## Cell Organelles

**Endoplasmic Reticulum(ER):-** \* Large network tubules extending from nuclear membrane to the plasma membrane.

1.Rough ER:- RER have ribosomes attached to the membrane which helps in protein synthesis.

2.Smooth ER:- \* SER does not have ribosomes on its membrane.

Functions:- \* Gives mechanical support to the cell.

\* Helps in the transport of material like protein.

\*RER helps in protein synthesis and lysosomal enzymes.

\* SER helps in synthesizing fats, steroids and cholesterol.

**Golgi Apparatus:-** \* A set of membrane bound smooth, flattened cisternae and vesicles.

\* They have their own DNA.

Functions- \* Helps in storage and produces vacuoles.

\* helps in synthesis of cell wall, plasma membrane and lysosomes.

**Lysosomes:-**Lysosome is a small vesicle which contains powerful digestive enzymes. These enzymes can break down all the organic materials and foreign materials like bacteria and virus. If cell gets damaged and lysosomes get burst then the enzymes digest their own cells. Thus lysosomes are also known as **suicide bag of the cell**.

Functions- \* It removes the wastes of cell and helps to clean the cell. It is known as **garbage disposal system**.

\* Protects from bacterial infection.

**Mitochondria:-**\* Absent in bacteria and red blood cells.

\* It is a double membrane structure of the cell.

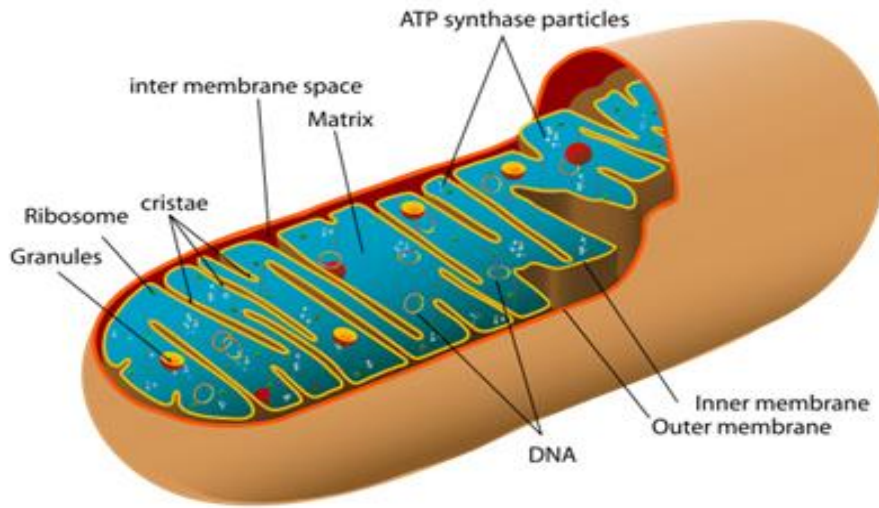
\* Outer membrane smooth and inner membrane is folded in finger like structure called **cristae**.

\* Small rounded particles present on cristae are known as **oxysomes**.

\* Inner cavity is filled with **matrix**.

\* Mitochondria contains its own DNA.

Functions- Mitochondria are sites of cellular respiration. During respiration carbohydrates and fats are oxidized into CO<sub>2</sub> and water in presence of oxygen, which releases energy. This energy is stored in the form **ATP (Adenosine triphosphate)**. Thus mitochondria are known as power house of the cell. **ATP** is known as **energy currency** of cell and used to perform different activities.



Mitochondria

**Plastids:-**\* Plastids are found in plant cells.

\* They also have their own DNA and ribosomes.

\* plastids are of following three types-

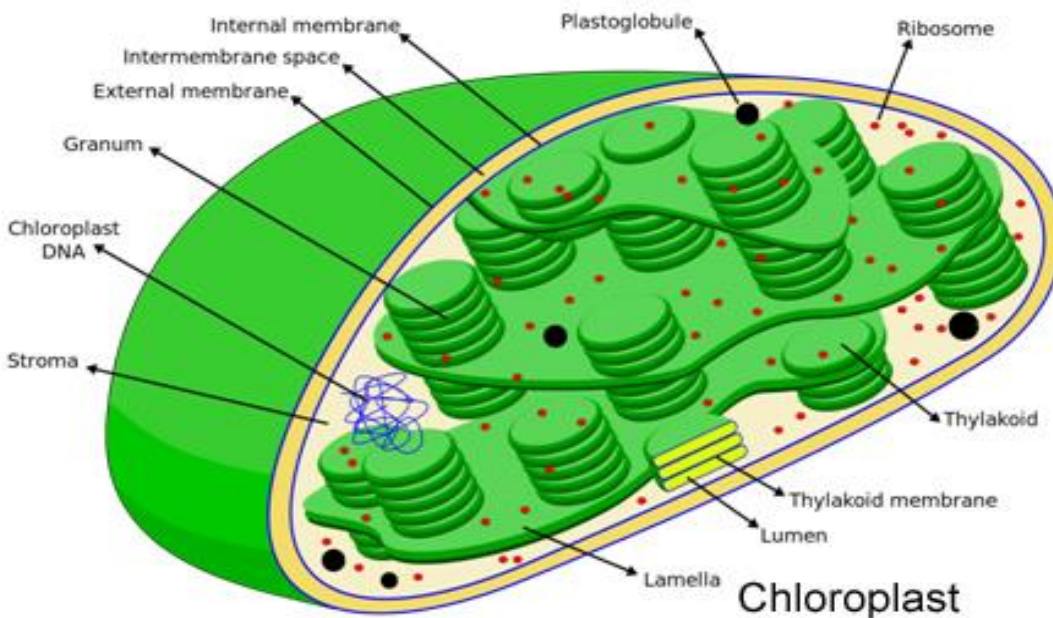
1. Chromoplast- \* Coloured plastids found in colored parts like flower.

\* It helps to attract insect for pollination.

2. Chloroplast-\* These are Green colored plastids, contain chlorophyll which trap sunlight during photosynthesis to manufacture food for the plant. Thus chloroplast is known as **food factory or kitchen of the cell**.

\* It is double membranous structure.

3. Leucoplast- Colorless plastids, found in colorless part of the plant. Leucoplasts store food in the form of carbohydrates fats and protein.



Chloroplast

**Ribosomes:-** Found on Rough ER and helps in protein synthesis.

**Vacuoles:-** \* A large vacuole is found in plant cell.

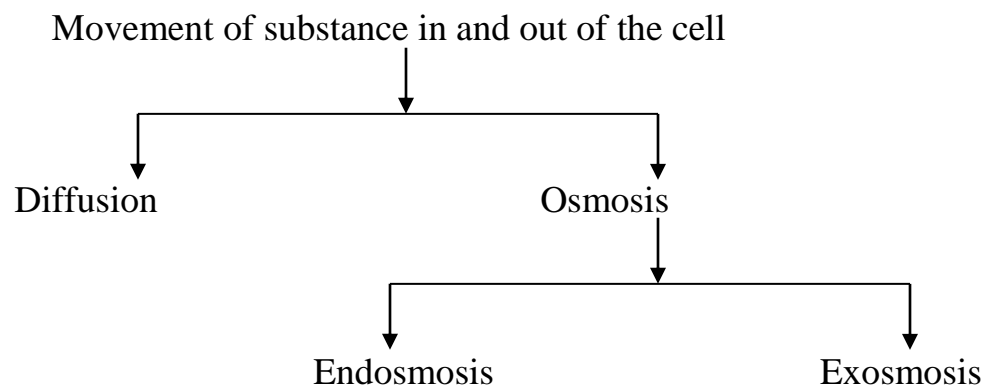
\* They store water, glycogen, protein, minerals etc.

\* It provide turgidity and rigidity to the plant cell.

\* It helps to maintain osmotic pressure in plants

\* It stores toxic metabolic by-products of the plant cell.

**Centrosomes:-** Helps in cell division.



**Diffusion:-** Movement of the substance from high concentration to lower concentration, is called diffusion. E.g. CO<sub>2</sub>, O<sub>2</sub>, water etc.

**Osmosis:-** The movement of water molecules from high concentration to lower concentration through a semi-permeable membrane (e.g. plasma membrane) is called osmosis. e.g. Soaking of dry almonds and raisins.

1. Hypotonic solution- If the cell kept in a solution of higher water concentration than the cell and cell absorb water by osmosis, is called **endosmosis**. And the solution is called hypotonic solution.

2. Isotonic solution – If the water concentration of cell and solution is same and cell does not absorb water, the solution is called isotonic solution.

3. Hypertonic solution- If the solution has lower concentration of water than the cell and cell loses the water through the osmosis, is called exosmosis. And solution is called hypertonic solution.

**Plasmolysis:-** loss of water by the living cell through the exosmosis in hypertonic solution, is called plasmolysis.

**Endocytosis:-** Ingestion of material by the cells through the plasma membrane, is called endocytosis. It has three types-

1. Phagocytosis (cell eating)- It is a common method of feeding in Protozoa (Amoeba).
2. Potocytosis ( cell drinking)
3. Receptor mediated endocytosis (uptake of large molecules)

**Exocytosis:-** Removal of undigested waste and secretory substances such as hormones, enzymes etc. It is also called cell vomiting.

**Exercise Q/Ans.**

Q.1 How do substances like CO<sub>2</sub> and water move in and out of the cell?

Q.2 Name two cell organelles we have studied that contain their own genetic material?

Q.3 Where are proteins synthesized inside the cell?

Q.4 what would happened if the plasma membrane ruptures or break down?

Where do the lipids and proteins constituting the cell membrane get synthesized?

Q.5 How does an amoeba obtain its food?

**\*NOTE-** Refer NCERT book exercise solution to solve these questions.

**Activity:-** Put dry raisins in pure water and leave them for some time. Then place them into a concentrated solution of salt.

Q.1 What changes do you observed in both the situation. Give reason.

Q.2 Write the name of processes take place in both conditions.

**HARI VIDYA BHAWAN**

Subject: English

Class-X

Work sheet-4

Grammar- (Gap Filling & jumble words)

**DATE:- 01/04/2020**

**Questions for practice:-**

**Q1. Fill in the following blanks given below choosing the most appropriate options from the ones that follow. Write the answers in your notebook against the correct blank numbers.**

Communication (a)----become very effective (b)-----instant due to smart phones. People are able (c)-----convey their messages all around the globe to (d)-----loved ones(e)-----spending hefty sums of money.

Options—

- |            |           |               |           |
|------------|-----------|---------------|-----------|
| a. (i) is  | (ii) has  | (iii)had      | (iv) have |
| b. (i) but | (ii) as   | (iii) or      | (iv) and  |
| c. (i) for | (ii) in   | (iii) to      | (iv) of   |
| d. (i) his | (ii) her  | (iii) their   | (iv) your |
| e. (i) to  | (ii) with | (iii) without | (iv) and  |

**Q 2.Sentence Reordering: Look at the words and phrases given below. Rearrange them to form meaningful sentences.**

1. Respect/said/that/demanded/it/but/is/given/that/is/not

2. If/something/then/in/return/for/should/be/it/is so/it

3 Self-respect/come out of/something/has/our/self/

that/and/is/that

4 Capital /is/the/self-respect life/of

Q 3. 1. Oliver Twist/workhouse/in/was/born/a

2 knew/father/nobody/who/was/his

3 died/mother/his/birth/his/soon/after

4 renowned/as a/author/famous/he is

**Hari Vidya Bhawan**  
**Worksheet-4**  
**Class-X**  
**Subject- Information Technology**

Date:-1-4-20

Note:- (Do all questions & answers in computer notebook and draw double line at the end of all questions and answers)

**L-1 Communication Skills**

**Question and answers practice exercise -3**

(page no.-29)

**Q.1-Enumerate the barriers of communication?**

**Ans. – The barriers of communication**

1. **Physical Barriers are easy to spot** – doors that are closed, walls that are erected, and the distance between people all work against the goal of effective communication. While most agree that people need their own personal areas in the workplace, setting up an office to remove physical barriers is the first step towards opening communication.
2. **Perceptual Barriers, in contrast, are internal.** If you go into a situation thinking that the person you are talking to isn't going to understand or be interested in what you have to say, you may end up subconsciously sabotaging your effort to make your point.
3. **Emotional Barrier** One of the chief barriers to open an free communication is emotional. Both encoding and decoding of message are influenced by our emotions. The emotional barrier is comprised mainly of fear, hostility, anger, pride, anxiety, mistrust and suspicion. As a result, many people hold back from communication their thoughts and feelings to others.
4. **Cultural Barriers** are a result of living in an ever-shrinking world. Different cultures, whether they be a societal culture of a race or simply the work culture of a company, can hinder developed communication if two different cultures clash. In these cases, it is important to find a common ground to work from. In work situations, identifying a problem and coming up with a highly efficient way to solve it can quickly topple any cultural or institutional barriers. Quite simply, people like results.
5. **Language Barriers** Language is the means which is said to be most effective means of communication with other. Our language may present barriers to others who are not familiar with our expression,, buzz- word and jargon.
6. **Gender barriers** have become less of an issue in recent years, but there is still the possibility for a man to misconstrue the words of a woman or vice versa. Men and women tend to form their thoughts differently, and this must be taken into account when communicating.
7. **Interpersonal Barriers** are what ultimately keep us from reaching out to each other and opening ourselves up, not just to be heard, but to hear others. Oddly enough, this can be the most difficult area to change. By engaging with others, we learn what our actual strengths and weaknesses are. This allows us to put forth our ideas in a clear, straightforward manner.
8. **Environmental Barrier** The major environmental barriers are time, place, space, climate, and noise. Some of them easy to alter whereas; some may prove to be obstacles in the process of effective communication.

**Q.2 Done in Ex.-1 leave it.( don't write this question again)**

**Q.3 Explain the communication process with all elements involve in it. What factors affect the process of communication.**

**Ans. The communication process:-**



**The Sender:-** The communication process begins with the *sender*, who is also called the *communicator* or *source*. The sender has some kind of information—a command, request, question, or idea—that he or she wants to present to others.

**The Receiver:-** The person to whom a message is directed is called the *receiver* or the *interpreter*. To comprehend the information from the sender, the receiver must first be able to receive the sender's information and then decode or interpret it.

**The Message:** The *message* or *content* is the information that the sender wants to relay to the receiver. All three elements together—sender, receiver, and message—and you have the communication process at its most basic.

**The Medium:-** Also called the *channel*, the *medium* is the means by which a message is transmitted. Text messages, for example, are transmitted through the medium of cell phones.

**Feedback:-** The communication process reaches its final point when the message has been successfully transmitted, received, and understood. The receiver, in turn, responds to the sender, indicating comprehension. *Feedback* may be direct, such as a written or verbal response, or it may take the form of an act or deed in response (indirect).

**Noise:** This can be any sort of interference that affects the message being sent, received, or understood. It can be as literal as static over a phone line or radio or as esoteric as misinterpreting a local custom.

**Context:** This is the setting and situation in which communication takes place. Like noise, context can have an impact on the successful exchange of information. It may have a physical, social, or cultural aspect to it

### **Factors affect the process of communication.**

1. **Conceptual Clarity**
2. **Language**
3. **Moods and Receptivity**
4. **Timeliness**

### **Q.4 Give some examples of psychological barriers.**

**Ans.-** The importance/purpose of feedback:

- i. Anger - Anger can affect the way your brain processes information given to you.
- ii. Pride - The need to be right all the time will not only annoy others, it can shut down effective communication.
- iii. Anxiousness - Anxiety has a negative impact on the part of your brain that manages creativity and communication skills.

### **Q.5 What is gender barrier to communication?**

**Ans.- Gender barriers** have become less of an issue in recent years, but there is still the possibility for a man to misconstrue the words of a woman or vice versa. Men and women tend to form their thoughts differently, and this must be taken into account when communicating.

### **Q.6 How can you overcome the emotional barriers in communication?**

**Ans.- To overcoming Emotional Barriers**

1. During communication one should make effective use of body language.
2. He/ She should not show their emotion while communication as the receiver might misinterpret the message being delivered.
3. When you are feeling angry, remove yourself from the situation for a bit to give yourself time to “cool off” from communication until you feel you can collect your thoughts, think clearly and hold back potentially hurtful and undue comment.

- When you are feeling anxious, simple relaxation techniques are likely enough to override the anxiety and get you up on stage feeling confident.

**Q.7 Why constructive feedback is necessary in process of communication?**

**Ans.-** Feedback is like a backbone in the entire process of communication and is important for a myriad number of reasons: I personally feel that feedbacks are an excellent reality-check mechanism for everything. Though, a feedback should always be constructive and not destructive. It should be forward-looking and learning oriented.

**Q.8 What is organizational barriers? How can you overcome to this?**

**Ans.-** The organizational barriers arise because misinformation of appreciate transparency available to the employees. This type of barrier might result in a commercial failure of an organization. There are different barriers that can occur within a company like-Language, Cultural diversity, gender differences, Status differences etc.

To overcoming Emotional Barriers;-

- The organizational structure should not be complex.
- The number of hierarchical level should be optimum.
- There should be an ideal span of control within the organization.
- Overall simpler the organizational structure, more effective will be the communication.

**Q.9 Identify the psychological barrier to communication from the following :**

**Attitude, age, viewpoints, emotional, closeness, prejudice, ideas, consciousness, poor retention, customs, closed mind, education, status.**

**Ans.-** Emotional, prejudice, poor retention, closed mind, status.

**Activity:-** draw it in notebook.

NIMCGJ

**Basic Communication Process**

**The Communications Process**

**Basic Communication Process**

**The Process of communication involves**

1. Sender :- Who sends message
2. Encoding: - Packaging of Message.
3. Channel: - Medium of message to send and receive.
4. Noise: - Disturbance while sending, encoding, decoding & receiving message.
5. Decoding: - interpretation of message.
6. Feedback: - Giving response to the received message.