

# Table of Contents

<b>CHAPTERS</b>	<b>PAGE NO.</b>
CHAPTER 1 :- THE LIVING WORLD .....	5-16
CHAPTER 2 :- BIOLOGICAL CLASSIFICATION.....	17-30
CHAPTER 3:- PLANT KINGDOM.....	31-42
CHAPTER4:- ANIMAL KINGDOM.....	43-54
CHAPTER 5 :- MORPHOLOGY OF FLOWERING PLANTS.....	55-71
CHAPTER 6:- ANATOMY OF FLOWERING PKANTS.....	72-81
CHAPTER 7:- STRUCTURAL ORGANISM IN ANIMALS.....	82-95
CHAPTER 8:-CELL THE UNIT OF LIFE.....	96-110
CHAPTER 9:-BIOMOLECULES.....	111-125
CHAPTER 10 :- CELL CYCLE AND CELL DIVISION.....	126-138
CHAPTER 11:- PHOTOSYNTHESIS IN HIGHER PLANTS.....	139-152
CHAPTER12:- RESPIRATION IN PLANTS.....	153-166
CHAPTER 13:- PLANT GROWTH AND DEVELOPMENT.....	167-182
CHAPTER 14:- BODY FLUIDS AND CIRCULATION.....	183-197
CHAPTER 15:-NEURAL CONTROL AND CORDINATION.....	198-214
CHAPTER 16:- CHEMICAL CORDINATION AND INTEGRATION.....	215-230
CHAPTER 17:- LOCOMOTION AND MOVEMENT.....	231-246
CHAPTER 18:- BREATHING AND EXCHANGE OF GASES.....	247-261
CHAPTER19:- EXCRETORY PRODUCTS AND ELIMINATION.....	262-275
<b>CLASS 12 TH BIOLOGY</b>	
CHAPTER 1:- SEXUAL REPRODUCTION IN FLOWERING PLANTS.....	276-291
CHAPTER 2:- HUMAN REPRODUCTION.....	292-304
CHAPTER 3:- REPRODUCTIVE HEALTH.....	305-319
CHAPTER 4:- PRINCIPLE OF INHERITANCE AMD VARIATIONS.....	320-334
CHAPTER 5:- MOLECULAR BASIS OF INHERITANCE.....	335-349
CHAPTER 6:-EVOLUTION.....	350-564
CHAPTER 7:- HUMAN HEALTH AND DISEASE.....	365-379

CHAPTER 8:-MICROBES IN HUMAN WELFARE.....	380-392
CHAPTER 9:- BIOTECHNOLOGY PRINCIPLE AND PROCESSES.....	393-405
CHAPTER 10:- BIOTECHNOLOGY AND ITS APPLICATIONS.....	406-418
CHAPTER 11:- ORGANISM AND POPULATION.....	419-431
CHAPTER 12:- ECOSYSTEM.....	432-444
CHAPTER 13:- BIODIVERSITY AND CONSERVATION.....	445-458

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## MAA SARASWATI BLESSINGS:-



हे माँ शारदे,  
मुझे धैर्य, संकल्प और एकाग्रता दो।  
ज्ञान के मार्ग पर मेरा पथ सरल करो,  
और मेरे लक्ष्य NEET को सफल बनाओ।

# CHAPTER 1 – THE LIVING WORLD

## 1. What is Living?

Living organisms show internal organization and perform life processes. Life cannot be defined by a single character but by a group of features.

## 2. Characteristics of Living Organisms

**Growth:** Increase in mass and number of cells.

- Living: growth from inside by cell division.
- Non-living (crystals): growth by external deposition → not true growth.

**Reproduction:** Ability to produce offspring.

- Important for species continuity.
- Not essential for individual survival (e.g., mule, sterile humans).

**Metabolism :** All chemical reactions in the body.

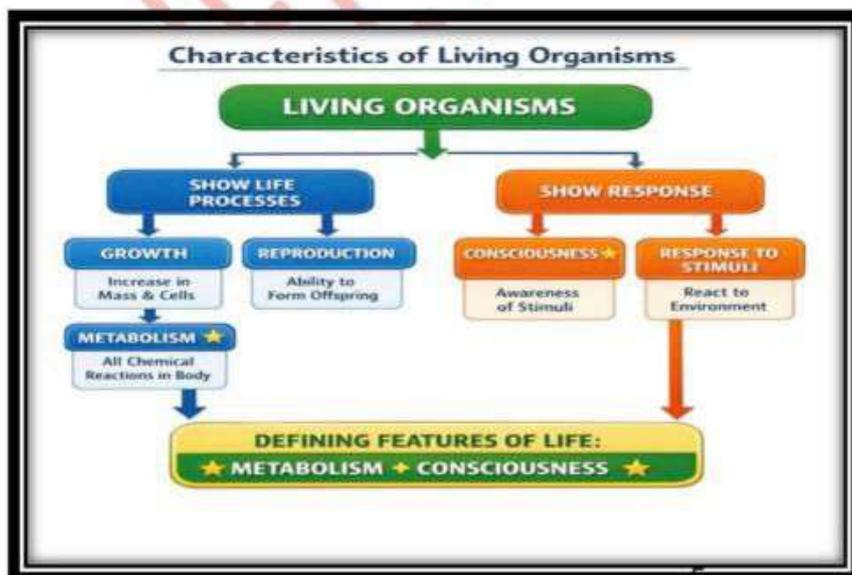
- Includes anabolism + catabolism.
- Occurs only in living organisms → most defining feature of life.

**Consciousness :** Ability to respond to stimuli (light, heat, chemicals, sound).

- Present in all living beings → defining feature.

Defining features of life: Metabolism + Consciousness

## Flowchart – Features of Life



### 3. Diversity in the Living World

Millions of organisms show huge diversity. To study them, we need:

Identification, Naming, Classification

This leads to taxonomy and systematics.

### 4. Taxonomy & Systematics

- Taxonomy: Identification, nomenclature, and classification.
- Systematics: Study of diversity and evolutionary relationships.

(Systematics is broader.)

### 5. Nomenclature (Scientific Naming)

Universal naming system

to avoid confusion.

Given by Carolus Linnaeus → Binomial nomenclature.

Each organism has:

Genus + Species

**Example:** Homo sapiens

**Rules:**

- Latin/Latinised names
- Genus → capital, Species → small
- Italics/underlined
- Follow ICBN (plants), ICZN (animals)

**Examples:-**

Common name:- Scientific name

**Human:-** Homo sapiens

**Mango:-** Mangifera indica

**Potato:-** Solanum tuberosum

### 6. Taxonomic Hierarchy



## 7. Taxonomical Aids

**Herbarium:** Dried, preserved plant specimens.

**Botanical gardens:** Living plant collections.

**Museum:** Preserved plant & animal specimens.

**Key:** For identification using paired statements.

**Flora/Fauna:** Books of plants/animals of a region.

**Monograph/Catalogue:** Detailed information of taxa.



### Short Summary

- Life is best defined by metabolism and consciousness.
- Taxonomy deals with naming and classification.
- Binomial nomenclature gives scientific names.
- Organisms are arranged from kingdom to species.
- Taxonomical aids help in identification and study.

## 30 NCERT BASED MCQS:-

Q1. Which of the following is a defining feature of living organisms?

- A) Growth only
- B) Metabolism

- C) Reproduction only
- D) Consciousness absent

Q2. Growth in living organisms mainly occurs due to:

- A) External mass deposition
- B) Cell division
- C) Aging
- D) Reversible changes

Q3. Metabolism includes:

- A) Only catabolic reactions
- B) Only anabolic reactions
- C) All chemical reactions
- D) Only respiration

Q4. Which one among the following is NOT a life process?

- A) Metabolism
- B) Reproduction
- C) Crystal growth
- D) Consciousness

Q5. Binomial nomenclature was given by:

- A) Darwin
- B) Aristotle
- C) Linnaeus
- D) Haeckel

Q6. In the scientific name *Homo sapiens*, *sapiens* is the:

- A) Genus
- B) Species
- C) Family
- D) Order

Q7. Scientific names should be written in:

- A) Italics

- B) Capital letters only
- C) Bold letters
- D) Underlined only

Q8. Which is the basic unit of classification?

- A) Family
- B) Order
- C) Species
- D) Genus

Q9. Arrange the taxonomic categories in correct order:

- A) Species → Genus → Family → Order
- B) Genus → Species → Family → Order
- C) Order → Family → Genus → Species
- D) Family → Order → Class → Phylum

Q10. Herbarium is mainly used to store:

- A) Live plants
- B) Fossils
- C) Dried plant specimens
- D) Animal specimens

Q11. Botanical gardens are useful for:

- A) Storing animals
- B) Preserving rare plants
- C) Storing rocks
- D) Storing chemical samples

Q12. A dichotomous key is used for:

- A) Preservation
- B) Identification
- C) Growth study
- D) Evolution

Q13. Which of the following shows true growth?

- A) Crystal
- B) Increase in mass by deposition
- C) Increase in number of cells
- D) Rusting

Q14. Species concept refers to:

- A) Habitat only
- B) Group of interbreeding organisms
- C) Same color
- D) Same weight

Q15. "Taxonomy" means:

- A) Study of life span
- B) Study of classification
- C) Study of environment
- D) Study of ecosystems

Q16. Systematics is broader than taxonomy because it includes:

- A) Classification only
- B) Evolutionary relationships
- C) Habitat study
- D) Growth pattern

Q17. Which code governs the naming of plants?

- A) ICZN
- B) ICBN
- C) ICLA
- D) ICSN

Q18. Zoological names of animals follow:

- A) ICZN
- B) ICBN
- C) ICLA
- D) ICGN

Q19. Which is an example of correct scientific name?

- A) solanum Tuberosum
- B) Solanum tuberosum
- C) SOLANUM TUBEROSUM
- D) solanum tuberosum

Q20. Classification helps in:

- A) Causing diseases
- B) Grouping organisms
- C) Food preparation
- D) Water purification

Q21. The term 'taxonomy' was coined by:

- A) Hooke
- B) Linnaeus
- C) Schwann
- D) T.H. Huxley

Q22. Herbaria are mainly used to:

- A) Preserve animals
- B) Preserve plant specimens
- C) Breed plants
- D) Study soil

Q23. The study of diversity of organisms is called:

- A) Ecology
- B) Systematics
- C) Physiology
- D) Anatomy

Q24. The part 'sapiens' in Homo sapiens refers to:

- A) Family
- B) Species
- C) Order

D) Kingdom

Q25. Which is the most inclusive taxonomic category?

A) Species

B) Genus

C) Kingdom

D) Family

Q26. Which is true about non-living vs living?

A) Only living shows metabolism

B) Only non-living grows

C) Living does not respond to stimuli

D) Non-living reproduces

Q27. A key trait of life is:

A) Rusting

B) Response to stimuli

C) Dissolution

D) Condensation

Q28. Botanical garden helps in:

A) Preserving rare plants

B) Studying ecosystems only

C) Animal husbandry

D) Soil testing

Q29. Taxonomic aids include:

A) Herbarium

B) Weather data

C) Rocks

D) None

Q30. The scientific name of potato is:

A) Solanum tuberosum

B) Solanum Tuberosum

- C) Solanum tuber
- D) Solanum tuberosa

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ANSWER KEY – CHAPTER 1 (MCQs 1–30)

1B 2B 3C 4C 5C 6B 7A 8C 9C 10C 11B 12B 13C 14B 15B 16B 17B 18A 19B 20B 21B 22B 23B  
24B 25C 26A 27B 28A 29A 30A

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## CHAPTER 1 – PREVIOUS YEAR QUESTIONS (PYQs)

Q1. Nomenclature is based on: (NEET 2016)

- A) Polynomials
- B) Trinomials
- C) Binomials
- D) Taxonomic keys

Q2. Which one of the following is less general in characters than genus? (NEET 2016)

- A) Species
- B) Family
- C) Order
- D) Class

Q3. The common characteristics between tomato and potato will be maximum at the level of their: (NEET 2013)

- A) Order
- B) Family
- C) Genus
- D) Species

Q4. Which one of the following is the most important defining property of living organisms? (NEET 2011)

- A) Growth
- B) Reproduction
- C) Metabolism
- D) Movement

Q5. Which of the following is contrary to the rules of nomenclature? (NEET 2016)

- A) *Mangifera indica*
- B) *Mangifera Indica*
- C) *Homo sapiens*
- D) *Panthera tigris*

Q6. The living organisms can be unexceptionally distinguished from the non-living things on the basis of their ability for: (AIPMT 2007)

- A) Growth
- B) Reproduction
- C) Metabolism
- D) Movement

Q7. One of the most important functions of botanical gardens is that they: (AIPMT 2005)

- A) Provide shelter to animals
- B) Are centres for preservation of plant species
- C) Help in crop improvement only
- D) Grow only medicinal plants

Q8. Species are considered as: (AIPMT 2003)

- A) Real units of classification
- B) Lowest units of classification
- C) Artificial groups
- D) Temporary groups

Q9. ICBN stands for: (AIPMT 2007)

- A) International Code of Biological Nomenclature
- B) Indian Code of Botanical Nomenclature
- C) International Code of Botanical Nomenclature
- D) Indian Code of Biological Names

Q10. Which one of the following is correctly written scientific name? (NEET 2013)

- A) *Homo Sapiens*
- B) *homo sapiens*
- C) *Homo sapiens*

D) HOMO SAPIENS

Q11. The term 'taxonomy' was coined by: (AIPMT 2009)

A) Darwin

B) Linnaeus

C) de Candolle

D) Aristotle

Q12. Which one of the following taxonomic aids contains dried, pressed and preserved plant specimens? (NEET 2015)

A) Herbarium

B) Museum

C) Botanical garden

D) Key

Q13. Which one of the following is not a correct statement? (NEET 2019)

A) Botanical gardens have living plant collections

B) Herbarium has dried plant specimens

C) Museum has living organisms only

D) Key is used for identification

Q14. Identify the incorrect statement with respect to taxa. (NEET 2019)

A) Species is the basic unit of classification

B) Genus includes related species

C) Family has more similar characters than genus

D) Order includes related families

Q15. What do A, B and C represent in the scientific name *Mangifera indica* Linn.? (NEET 2019)

A) Genus, species, author

B) Species, genus, author

C) Family, genus, species

D) Genus, family, author

Q16. Which of the following is against the rules of ICBN? (NEET 2019)

A) Handwritten scientific names are underlined

- B) Author's name is written after species
- C) Genus name starts with small letter
- D) Names are in Latin

Q17. The study of diversity of organisms and their evolutionary relationships is called: (AIPMT 2011)

- A) Taxonomy
- B) Systematics
- C) Ecology
- D) Physiology

Q18. Which one of the following is not a taxonomic category? (NEET 2017)

- A) Phylum
- B) Order
- C) Genus
- D) Variety

Q19. Which one of the following represents the correct sequence of taxonomic categories? (NEET 2018)

- A) Kingdom → Phylum → Class → Order → Family → Genus → Species
- B) Kingdom → Class → Phylum → Order → Family → Genus → Species
- C) Phylum → Kingdom → Class → Order → Family → Genus → Species
- D) Kingdom → Order → Class → Phylum → Family → Genus → Species

Q20. Which of the following is an exclusive characteristic of living organisms? (NEET 2021)

- A) Growth
- B) Reproduction
- C) Metabolism
- D) Movement

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### Answer Key – PYQs

1C 2A 3C 4C 5B 6C 7B 8A 9C 10C 11C 12A 13C 14C 15A 16C 17B 18D 19A 20C

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