

CAREERS 360

PREPARATION **Series**

NEET UG 2025

Botany

for NEET 2025

**Study Material, Mock Test, Chapters,
Important Topics & More**



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About The eBook

Preparing for the NEET 2025 exam requires a strategic approach, especially when it comes to mastering botany. This eBook is your ultimate guide to excelling in the botany section of NEET. It has been meticulously designed to provide you with:

Comprehensive Study Material: Covering every chapter and concept in the NEET syllabus for botany, this eBook ensures a detailed understanding of fundamental and advanced topics.

Chapter-Wise Analysis: Each chapter is broken down into bite-sized, easy-to-digest segments, focusing on conceptual clarity and application-based learning.

Important Topics Highlighted: Stay focused with a list of critical topics frequently asked in past NEET exams, along with tips to prioritize them during your preparation.

Practice Questions: Test your understanding with a wide variety of MCQs designed to simulate NEET-level difficulty.

Quick Revision Notes: Perfect for last-minute preparation, these notes summarise key points for rapid revision.

Insights from Previous Years' Papers: Get an edge by analysing trends and types of questions asked in previous NEET exams.

Whether you're revising or starting afresh, this eBook is tailored to guide you every step of the way to achieve a top score in the botany section.

A Note to the Students

Dear Students,

The journey to cracking NEET is as challenging as it is rewarding. As you immerse yourself in the preparation for NEET 2025, remember that consistency, focus, and a positive mindset are your greatest allies.

- **Plan Wisely:** Stick to a well-structured schedule that balances studying, practice, and self-care.
- **Master the Basics:** Understanding core concepts is crucial for excelling in botany. Don't hesitate to revisit foundational topics.
- **Practice, Practice, Practice:** Solve as many questions as you can. It not only strengthens your grasp of the subject but also boosts confidence.
- **Use Resources Wisely:** This eBook is your tool to navigate botany effectively—make the most of it.
- **Stay Motivated:** Challenges are inevitable, but persistence will lead you to success. Surround yourself with positivity and believe in your potential.

We wish you the very best for your preparation and are confident that with dedication and hard work, success will be yours.

Happy Learning!

Title - Botany for NEET 2025: Study Material, Mock Test, Chapters, Important Topics & More

“Botany” comes from the Greek word “botane”, which means plant and refers to the scientific study of plants, including their structure, growth, reproduction, functions, metabolism, and evolution. Theophrastus is known as the Father of Botany due to his early classifications of plants. Botany is the study of the plants beginning as people searched among plants for medicines and farming. The three main branches of botany are plant physiology, or how plants work, taxonomy, or classifying plants, and ecology, or how plants interact with the environment. Botany is very important for students from Class 6 to Class 12 in the CBSE syllabus and helps students to revise any exam, like [NEET](#).

Botany Definition

Botany is the study of [biology](#) which deals with the scientific study of plants, their structure, growth, reproduction, metabolism, diseases, and their ecological relationships. Botany is studied from microscopic algae to large trees, explaining biodiversity and emphasising sustainability in the environment.

What is Botany?

Botany is a branch of biology involving the scientific investigation of plants. In different aspects of plant life, botany is the study of classification, structure, function, as well as the interaction of plants within the environment. The definition of botany itself originated from the Greek word “botany” in Greek, which means “grass” or “herb,” particularly indicating that at first, the focus of early botany was on plant life. Current botany has developed to find not only the diversity of plant species but also their ecological roles, uses in human life, and contributions to environmental sustainability. Generally, botany meaning is the study of plant life and includes microscopic algae and towering trees.

History of Botany

The study traced its roots back to ancient civilizations, where people lived by dependence on plants for food, medicine, and materials. Over time, due to such dependence, plant life became an object of scientific investigation. Ancient scholars such as the Father of Botany, Theophrastus, gave impe-

tus to this branch of Biology through their writings on plant classification and descriptions.

Early Plant Explorers

- Theophrastus: Often called the Father of Botany, his two major works, Enquiry into Plants and On the Causes of Plants, serve as the bedrock for early [plant classification](#) and descriptions.
- **Dioscorides:** A Greek physician, Dioscorides wrote De Materia Medica which was an important text on herbal medicine and remained a standard reference for over 1500 years.

New Advances in the Science of Botany

The invention of the compound microscope by Robert Hooke in 1665 initiated the revolution in the botany branch, giving scientists a further boost for observing structures in plants microscopically. This, in turn, helped to understand anatomy, physiology, and above all, the [process of photosynthesis](#) with the [discovery of chlorophyll](#).

Branches of Botany

Botany is such a wide field that comprises several specialized branches, and the focus of each branch is concentrated on some particular aspects of plant life. Some of the main streams in bot-

Branch	Description
Plant Pathology	The study of plant diseases, their causes, and management strategies.
Plant Ecology	Examines plant distribution, environmental impacts, and inter-species interactions.
Palaeobotany	Focuses on the study of fossilized plants to understand their evolutionary history.
Archaeobotany	Investigates ancient plant use by humans, shedding light on cultural practices.
Forensic Botany	Utilizes plant evidence in legal investigations, aiding in crime scene analysis.

Important Parts of Botany

Given below is the list of important parts of botany based on general knowledge about the areas that can be found in the major parts of a botany syllabus:

Plant Diversity and Taxonomy

Plant diversity and taxonomy is the study of plant classification. It includes plant groups such as [Algae](#), Fungi, Bryophytes, Pteridophytes, Gymnosperms, and Angiosperms. The groups include very simple organisms like algae and highly complex flowering plants. Taxonomy and systematics describe the identification, classification, and naming of plants according to their characteristics and evolutionary relationship.

- [Angiosperm and Gymnosperm Difference](#)
- [Angiosperm Life Cycle](#)

Plant Anatomy

Plant anatomy is the study of plant tissues and their organization. It describes the structure and function of roots, stems, leaves, flowers, and fruits. Secondary growth in plants and microscopic analysis of plant tissues (e.g., [xylem](#), [phloem](#)) are also included in this topic.

- [Plant Tissue System](#)
- [Parenchyma Cells](#)
- [Anatomy of Root, Stem and Leaf](#)

Plant Physiology

Plant Physiology describes photosynthesis, respiration, and plant metabolism. It also explains the water and mineral transport in plants, Stress physiology in plants such as drought and salinity, etc. Plant growth regulators (hormones) and their role in development are also studied under this part of botany.

- [Factors Affecting Plant Growth](#)
- [Aerobic and Anaerobic Respiration](#)
- [Photosynthetic Pigments](#)

Genetics and Molecular Biology

Genetics and Molecular Biology in botany deal with the principles of inheritance, including Mendel's genetics, and the structure and functioning of genes at a molecular level. It also includes plant [bio-technology](#), genetic engineering, and studies on the genomics of plants and DNA, organisation and

expression of genetic information and its use in research and agricultural benefits.

- [Monohybrid Cross](#)
- [Dihybrid Cross](#)
- [Test Cross](#)

Ecology and Environment

Ecology and Environment in botany explain how the plant interacts with the environment, its ecosystems, biodiversity, and conservation efforts. It also explores the adaptation of plants to different habitats and their pivotal position in ecosystems, especially in the carbon cycle while helping regulate atmospheric carbon to hold the ecological balance.

- [Energy Flow in Ecosystem](#)
- [Biosphere Reserves](#)
- [Carbon Cycle](#)

Economic Botany and Ethnobotany

It includes the study of plants with economic importance like agriculture, forestry, and medicinal usage. Traditional usage of plants in ethnic cultures and the use of plants in pharmaceuticals, [bio-fuels](#), and industrial applications is also covered in this part.

- [Deforestation](#)
- [Agricultures Impact on Climate Change](#)

Plant Pathology

Study of diseases of plants and their causative agents, [fungi](#), bacteria, or viruses. It explains methods of disease management and control in agriculture and the impact of plant disease on [crop production](#).

- [Agricultural Implements](#)
- [Agricultural Practices](#)

Palaeobotany and Evolution

It is the study of the fossil record and the evolution of plants. Ancient plant life and their environmental conditions and evolutionary trends in plant biology are covered in this.

Practical Modules

Practical modules in botany include experiments conducted in laboratories on plant structure,

function, and [taxonomy](#). It also covers field trips and excursions for the identification of plants and other ecological studies. These modules cover techniques in plant [tissue culture](#) and study, biotechnology, and microscopy in plant [cells](#) and tissues.

- [Bt Cotton](#)
- [Biotechnology Agriculture](#)

Importance of Botany

The importance of botany goes way beyond the academic area as it contributes significantly to life and the environment.

What does Botany contribute to?

1. **Production of Food:** Details regarding the biology of plants are used in agriculture to enhance crop production and devise methods for [sustainable agriculture](#).
2. **Medicinal Resources:** Most of the pharmaceuticals have their origins in plants. Botany thus allows for the discovery of new medicinal compounds and the understanding of their mechanisms of action.
1. **Environmental Conservation:** Monitoring of plant populations and ecosystems by botanists helps in protection against [biodiversity loss](#) and degradation of the environment.
1. **Development of Biofuels:** Botanical knowledge helps carry out research and development of [renewable sources of energy](#) such as biofuels, which are important in reducing reliance on fossil fuels.
2. **Cultural Importance:** Plants signify a significant part of many cultures' symbols, traditional medicine, and part of spiritual culture.

News on Botany

Here are some recent developments in botany-related research in India:

- **62 New Desiccation-Tolerant Plants Discovered**
Scientists found new plant species in the Western Ghats that can survive extreme drought conditions. These plants could help develop drought-resistant crops.
- **Efforts to Conserve Endangered Plants**
As per the [Ministry of Environment, Forest and Climate Change \(MoEFCC\)](#) reports, conserva-

tion projects focusing on rare and endemic plant species are ongoing in India.

- **New Plant Species Added to India's Flora**

[Botanical Survey of India \(BSI\)](#) recently identified 267 new plant species in India, enhancing biodiversity.

- **Drought-Resistant Crops Study**

Researchers at [National Botanical Research Institute \(NBRI\)](#) are studying drought-resistant plants to support sustainable agriculture.

The Future of Botany

As we move into the future, incorporating technology and biotechnology with botanical research opens up new opportunities. Genetic modification and an increased rate of improvement in [molecular biology](#) will heighten our understanding of the genetics of plants and enhance our ways of crop production and its sustainability.

New Trends in Botany

- **Basic genomic studies:** Legumes are being developed for increased resistance to drought and improved nutritional value.
- **Climate Change Research:** Investigating the plant responses to climate change together with their roles in carbon sequestration.
- **Urban Botany:** Plants used in the urban environment, increasing air quality, and then used for creating green spaces.

Botany for NEET 2025

Around 50% of the Biology section constitutes Botany. The total marks of the Biology section is 360 out of the 720 marks. For NEET preparation, covering the syllabus from the NCERT textbook is important. Understanding key concepts and practising past questions can help improve performance in Botany for NEET.

NEET Botany Preparation

For an effective preparation of Botany for NEET 2025, understanding the [NEET Botany syllabus](#) is the first and most important step. The syllabus for NEET Exam 2025 covers the chapters of CBSE Class 11 and 12. Having command of the topics and concepts of Botany classes 11 and 12 becomes the top priority for aspiring students.

Class 11 Botany Chapters for NEET 2025

Given below is the list of important Botany chapters of [class 11 syllabus](#) for NEET Exam preparation:

The Living World	Biological Classification
Plant Kingdom	Morphology of Flowering Plants
Anatomy of Flowering Plants	Cell The Unit of Life
Cell Cycle and Cell Division	Transport in Plants
Mineral Nutrition	Photosynthesis in Higher Plants
Respiration in Plants	Plant Growth and Development

Also Read:

- NCERT solutions for class 11 Biology
- NCERT exemplar solutions for class 11 Biology

Class 12 Botany Chapters for NEET 2025

Given below is the list of important Botany chapters of [class 12 syllabus](#) for NEET Exam preparation:

Sexual Reproduction in Flowering Plants	Reproduction in Organisms
Principles of Inheritance and Variation	Molecular Basis of Inheritance
Strategies for Enhancement in Food Production	Microbes in Human Welfare
Biotechnology Principles and Processes	Biotechnology and its Application
Organism and Population	Ecosystem
Biodiversity and Conservation	Environmental Issues

Also Read:

- NCERT exemplar solutions for class 12 Biology
- NCERT solutions for class 12 Biology

Class 12 Botany Chapters for NEET 2025

Here are some tips to prepare Botany for the NEET Exam:

- **Focus on NCERT Textbook:** Study the NCERT textbook thoroughly, as questions in NEET are directly asked from NCERT.
- **Understand Concepts:** Build a strong understanding of plant physiology, morphology, and cell biology.
- **Make Notes:** Prepare notes on important points and diagrams for quick revision.
- **Practice Diagrams:** Botany involves many diagrams, so practice them regularly.
- **Solve Previous Papers:** Regularly solve NEET and CBSE previous year questions.

Also read: [NEET Biology Previous Year Papers](#)

Best Botany Books for the NEET Exam

The best Botany books for NEET preparation are:

- [NCERT textbook Biology Class 11](#)
- [NCERT textbook Biology Class 12](#)
- Trueman's Objective Biology
- Biology by Campbell and Reece
- MTG's NCERT at Your Fingertips
- Dinesh Objective Biology

All these books provide students with huge collections of MCQs, explanations, and practice papers for improvement in Botany NEET preparation.

Students can also download the NEET mock Test 2025 for all subjects from the link given below:

NEET Mock Test Zoology 2025 PDF	DOWNLOAD ↓
NEET Mock Test Biology 2025 PDF	DOWNLOAD ↓
NEET Mock Test Chemistry 2025 PDF	DOWNLOAD ↓
NEET Physics Mock Test 2025 PDF	DOWNLOAD ↓

Botany MCQ for NEET

Practice is very important in Botany for the NEET exam, since it will give clarity on concepts of plant physiology, morphology, and genetics. Regular practice of similar question types increases familiarity with the patterns of the exam to ensure accuracy and speed. Proper revision and focused practice regularly help students in qualifying for the NEET exam.

Practice MCQ On NEET Botany	DOWNLOAD 
Download other NEET related ebooks that will boost your NEET Exam preparation:	
NEET Previous 10 years Questions with Detailed Solutions (2015 - 2024)	DOWNLOAD 
Biology Comparison and Difference Between Concepts for NEET	DOWNLOAD 

Frequently Asked Question (FAQs) -

Botany - Definition, Study of Plants, Branches, Importance, and Facts

Question: Who is Known as the Father of Botany?

Answer: Theophrastus, an ancient Greek philosopher, is given the credit of being known as the Father of Botany due to his work on plant classification and descriptions.

Question: Why is Botany so important?

Answer: Botany is fundamental in food production, the development of medicinal resources, the conservation of the environment, and understanding biodiversity as well as ecological sustainability.

Question: What are the main branches of Botany?

Answer: The main streams of Botany include Plant Pathology, Plant Ecology, Palaeobotany, Archaeobotany, and Forensic Botany which focus on different aspects of plant life.

Question: How has technology impacted Botany?

Answer: Application of technology in botany includes the advent of microscopy, genetic engineering, and biotechnology. These technologies have changed the way botanists see into plants, and can make crop production better, as well as crop sustainability.

Question: What is Botany?

Answer: Botany is a branch of biology or science that deals with the study of plants, their structures, functions, and interactions with the environment.

Explore More Useful Resources for **NEET** Success

Preparing for NEET requires not just hard work but also the right resources. Along with the ebooks on scoring concepts, previous years' questions, and mock tests, we offer a variety of additional study materials to help you excel in your preparation. Whether you need extra practice, deeper conceptual understanding, or strategic study tips, our carefully curated resources have you covered. From video lectures and revision notes to practice quizzes and topic-wise analysis, these tools complement your learning and give you an edge in the exam.

Explore these valuable resources to boost your NEET preparation and reach your dream medical college!

Biology Topics for NEET and Its Branches

In this section, we provide a comprehensive list of biology topics tailored for NEET, covering both Botany and Zoology. The topics span crucial branches like Genetics, Ecology, Cell Biology, Human Physiology, and Plant Physiology, helping students build a strong conceptual foundation. Each branch is broken down into key topics, ensuring students focus on the most scoring and high-weightage areas as per the latest NTA syllabus. This structured approach enables efficient learning and targeted revision.

Biology for NEET 2025	Study Here
Anatomy - Branch	Study Here
Botany - Branch	Study Here
Zoology - Branch	Study Here
Facts About Biology	Study Here
Biotechnology - Branch	Study Here

Molecular Biology - Branch	Study Here
Microbiology - Branch	Study Here
Physiology - Branch	Study Here
Macromolecules	Study Here
Ecology - Branch	Study Here
Genetics - Branch	Study Here
Immunology - Branch	Study Here
Lipids	Study Here
Carbohydrates	Study Here
Metabolism	Study Here
Oxygen Cycle	Study Here
Origin of life on Earth	Study Here
Chromosomes	Study Here
Water cycle	Study Here
Population control	Study Here
Human population	Study Here

Botany and Zoology Chapter-wise Study Material (Table Format)

We offer chapter-wise study material for both Botany and Zoology, organised in a clear, easy-to-navigate table format. Each chapter is mapped out with essential concepts, high-frequency questions, and key takeaways, ensuring complete coverage for NEET preparation. This layout allows students to track their progress, identify strengths and weaknesses, and focus their efforts on the most important chapters. It's the perfect resource for systematic revision and topic-wise preparation.

Chapter Name	Subject	STUDY HERE
The Living World	Botany	Study here
Biological Classification	Botany	Study here
Plant Kingdom	Botany	Study here
Animal Kingdom	Zoology	Study here
Morphology Of Flowering Plants	Botany	Study here
Anatomy Of Flowering Plants	Botany	Study here
Structural Organisation In Animals	Zoology	Study here
Cell: The Unit Of Life	Botany	Study here
Biomolecules	Zoology	Study here
Cell Cycle And Cell Division	Botany	Study here
Transport In Plants	Botany	Study here
Mineral Nutrition	Botany	Study here
Photosynthesis In Higher Plants	Botany	Study here
Respiration In Plants	Botany	Study here
Plant Growth And Development	Botany	Study here
Digestion And Absorption	Zoology	Study here
Breathing And Exchange Of Gases	Zoology	Study here
Body Fluids And Circulation	Zoology	Study here
Excretory Products And Their Elimination	Zoology	Study here
Locomotion And Movement	Zoology	Study here
Neural Control And Coordination	Zoology	Study here

Reproduction In Organisms	Botany	Study here
Sexual Reproduction In Flowering Plants	Botany	Study here
Human Reproduction	Zoology	Study here
Reproductive Health	Zoology	Study here
Principles Of Inheritance And Variation	Botany	Study here
Molecular Basis Of Inheritance	Botany	Study here
Evolution	Zoology	Study here
Human Health And Disease	Zoology	Study here
Strategies For Enhancement In Food Production	Botany	Study here
Microbes In Human Welfare	Botany	Study here
Biotechnology: Principles And Processes	Zoology	Study here
Biotechnology And Its Applications	Zoology	Study here
Organisms And Populations	Botany	Study here
Ecosystem	Botany	Study here
Biodiversity And Conservation	Botany	Study here
Environmental Issues	Botany	Study here

Most Scoring Concepts for NEET (As Per Latest NTA Syllabus)

Get ahead in your NEET preparation with our Most Scoring Concepts for NEET ebook, designed based on the latest NTA syllabus. This comprehensive guide highlights high-weightage topics in biology, physics, and Chemistry that can significantly boost your score. With clear explanations, expert tips, and strategies to focus on key chapters, this ebook is a must-have for every NEET aspirant. Start mastering the concepts that matter the most and maximise your chances of success!

[DOWNLOAD NOW](#)

and Ace Your NEET Preparation!

NEET Previous 10 Years Questions with Detailed Solutions (2015 - 2024)

Unlock the treasure trove of the past 10 years' NEET exam questions (2015-2024) with this meticulously crafted ebook. It includes detailed solutions to every question, helping you understand the correct approach and reasoning behind each answer. Covering all subjects—Biology, Physics, and Chemistry—this ebook is perfect for identifying trends, practicing real exam questions, and sharpening your problem-solving skills. Get a head start in your preparation by learning from the past to conquer the future.

[DOWNLOAD NOW](#)

and Master Previous Years' Papers!

Botany Mock Test for NEET 2025

Boost your NEET 2025 preparation with our Botany Mock Test Ebook, designed to help you master the plant biology section. This ebook includes a full-length mock test covering crucial topics like Plant Physiology, Plant Reproduction, Cell Biology, and Genetics. The questions are aligned with the latest NEET exam pattern, allowing you to practice under real exam conditions and improve both speed and accuracy.

Whether you need to reinforce key concepts or fine-tune your problem-solving skills, this mock test provides the perfect practice tool to assess your preparation and identify areas for improvement. Strengthen your foundation in Botany and get ready to score higher in the NEET exam.

[DOWNLOAD NOW](#)

and Enhance Your Botany Preparation!

Zoology Mock Test for NEET 2025

Prepare to excel in the Zoology section of NEET 2025 with our Zoology Mock Test Ebook! This mock test is designed to cover all critical zoology topics, including Human Physiology, Reproductive Health, Genetics, Evolution, and Animal Kingdom. With a diverse set of questions, this ebook helps you evaluate your understanding, improve your speed, and refine your answering strategy.

Simulating the real exam pattern, this mock test offers a blend of conceptual, factual, and analytical questions, ensuring comprehensive practice. By tackling these well-structured questions, you can enhance your problem-solving skills, boost your confidence, and perform your best in the actual exam.

[DOWNLOAD NOW](#)

the Ebook and Sharpen Your Zoology Skills for NEET 2025!

NEET Mock Test Biology 2025

Prepare for NEET 2025 with our Biology Mock Test Ebook, curated to simulate the real exam experience. This ebook includes a full-length mock test covering all crucial topics like Genetics, Ecology, Human Physiology, and Plant Reproduction. With a range of conceptual and application-based questions, this mock test will help you assess your preparation, improve time management, and identify areas that need more focus. Stay ahead of the competition and enhance your performance in NEET Biology with this strategic resource.

[DOWNLOAD NOW](#)

and Test Your Biology Skills Now!

NEET Mock Test Physics 2025

Crack the toughest section of NEET 2025 with our Physics Mock Test Ebook. This ebook offers a comprehensive mock test that covers critical areas such as Mechanics, Thermodynamics, Electrostatics, and Optics. With a mix of numerical problems, theoretical questions, and tricky concepts, this test will challenge your understanding and help you get exam-ready. Perfect your problem-solving techniques and practice time-efficient methods with this tailored physics mock test.

[DOWNLOAD NOW](#)

and Elevate Your Physics Preparation!

NEET Mock Test Chemistry 2025

Take your NEET Chemistry preparation to the next level with our Chemistry Mock Test Ebook for 2025. Designed to reflect the real exam pattern, this mock test includes questions from all key sections—Physical, Organic, and Inorganic Chemistry. Tackle questions on topics like Chemical Bonding, Coordination Compounds, and Organic Reactions, ensuring you're well-prepared to ace the exam. Refine your knowledge, improve accuracy, and build confidence with this comprehensive mock test.

[DOWNLOAD NOW](#)

and Sharpen Your Chemistry Concepts Now!

Dear Aspirants,

Wishing you all the best as you prepare to step into the NEET 2025 examination hall. Your dedication and hard work have brought you here, and now it's time to let your confidence shine. Trust in the preparation you've done with this Ebook, stay calm, and approach each question with the clarity you've gained over your journey.

Go forward with confidence, and may you achieve the success you deserve. We believe in you and can't wait to see you succeed.

**Best of luck and shine bright,
future Doctors!**
