

As Per NEP 2020

**Tolani College of
Commerce
(Autonomous)**



Knowledge is Supreme

Title of the Course: Wonders of the Living World- I (Plants)

Name of the Programmes:

1. Bachelor of Commerce (Management Studies)
2. Bachelor of Commerce (Accountancy & Finance)
3. Bachelor of Commerce (Banking & Insurance)
4. Bachelor of Commerce (Financial Markets)
5. Bachelor of Science (Information Technology)

Semester I

Syllabus for 4 Credit Course

From the academic year- 2024-2025

Name of the Course: Wonder of the Living World- I (Plants)

| Sr. No. | Heading | Particulars |
|---------|---|---|
| 1 | Description the course: | The course is an introductory to the world of plants. It the offer insights into the evolution of plants, their types as well as adaptation. It also discusses the distribution and biogeography of plants. |
| 2 | Vertical: | Open Electives |
| 3 | Type: | Theory |
| 4 | Credit: | 4 credits |
| 5 | Hours Allotted: | 60 Hours |
| 6 | Marks Allotted: | 100 Marks Continuous Evaluation 40 Marks Semester End Examination 60 Marks |
| 7 | Course Objectives: By end of this course learners should be: <ol style="list-style-type: none"> 1. introduced to the world of plants 2. able to understand the propagation mechanism in plants 3. able to understand adaptations in plants 4. able to understand the role of plants in environment | |
| 8 | Course Outcomes: The learners shall be able to: <ol style="list-style-type: none"> 1. identify various types of plants by observing the parts of the plants 2. appreciate the methods plants employ to spread across the globe 3. appreciate the survival instincts in plants 4. appreciate the role of plants as indicator species | |

| | |
|----|--|
| 9 | <p>Module 1: Introduction to the world of plants (15 Hours)</p> <ol style="list-style-type: none"> 1. Know the plants: Definition, Characteristics, Evolution 2. Types of plants: Classification of plants as on the basis of their stem- Trees, Shrubs, Herbs; life cycle- annual and perennial; propagation- Flowering and non-flowering 3. Parts of plants: Types of roots, stem, leaves, flowers and fruits <p>Module 2: Colonising the world (15 Hours)</p> <ol style="list-style-type: none"> 1. Propagation in plants: Definition; Types- Vegetative propagation, Binary fission, Fragmentation, Budding, Spore formation 2. Pollination: Definition; Process; Types of pollinators 3. Seed dispersal: Definition; Types of seeds; Mechanisms for seed dispersal- wind, water, animals <p>Module 3: Adaptations in plants (15 Hours)</p> <ol style="list-style-type: none"> 1. Adaptations to overcome extreme condition: Heat and Cold; Water stress, Excess water 2. Adaptation to competition: Sunlight, Water, Nutrients 3. Adaptation for defense/ protection: Toxins; Thorns and spines; Unpalatability <p>Module 4: Role of plants (15 Hours)</p> <ol style="list-style-type: none"> 1. Plant associations: Definition; Types- Symbiosis, Parasitism, Mutualism, Competition, Commensalism 2. Plants as indicators: Soil, Air and Water quality; Environmental degradation 3. Plant biogeography: Definition; Concept of biomes; Endemic, Native and Invasive plants |
| 10 | <p>Reference Books:</p> <ol style="list-style-type: none"> 1. Brooker Rob W. Plant–plant interactions and environmental change New Phytologist, 23 June 2006 https://doi.org/10.1111/j.1469-8137.2006.01752.x 2. Chamovitz Daniel What a Plant Knows: A Field Guide to the Senses Scientific American / Farrar, Straus and Giroux; Reprint edition (30 April 2013) 192 pages ISBN-10: 0374533881 ISBN-13: 978-0374533885 3. Chapman and Riss: Ecology, Principles and application (Cambridge University Press) 4. Hanson Thor The Triumph of Seeds: How Grains, Nuts, Kernels, Pulses, and Pips Conquered the Plant Kingdom and Shaped Human History Basic Books; Reprint edition (8 March 2016) 320 pages ISBN-10 : 0465097405 ISBN-13 : 978-0465097401 5. Kochhar, S.L. (2012). Economic Botany in Tropics. New Delhi, India: MacMillan & Co. 6. Kormondy, E.J. (1996). Concepts of Ecology. Prentice Hall, U.S.A. 4th edition. 7. Majumdar, R and Kashyap, R (2019). Practical Manual of Ecology and Environmental Science, New Delhi, India: Prestige Publishers 8. Mani, M.S.: Bio-geography of Indi, (Springer Verlag) 9. Odum, E.P.: Fundamentals of Ecology, (Rastogi Pub) 10. Oliver Daniel, First Book of Indian Botany (Paperback) (London: Macmillan and Co. 1869.) Gyan Publishing House 2023 412 pages ISBN: 9788121292924 11. Patnaik Naveen The Garden of Life: An Introduction to The Healing Plants of India Doubleday (1 October 1993) 12. Sharma, P.D. (2010) Ecology and Environment. Rastogi Publications, Meerut, India. 8th edition. |

| | |
|-----------|--|
| | <p>13. Singh, J.S., Singh, S.P., Gupta, S. (2006). Ecology, Environment and Resource Conservation. New Delhi, India: Anamaya Publications. Shukla, R.S. & Chandal, P.S.: Plant Ecology, (S. Chand & Co)</p> <p>14. Verma, P.S. & Agarwal, V.K.: Concept of Ecology, (S. Chand and Sons Co.)</p> |
| 11 | <p>Other Readings:</p> <ol style="list-style-type: none"> 1. https://www.thinktrees.org/wp-content/uploads/2019/07/Plant-Adaptations.pdf 2. https://ncert.nic.in/textbook/pdf/fesc104.pdf 3. https://education.nationalgeographic.org/resource/adaptation-and-survival/ |
| 12 | <p>Websites:</p> <ol style="list-style-type: none"> 1. https://www.iucnredlist.org/ 2. https://www.kew.org/ 3. https://bsi.gov.in/ 4. https://blatterherbarium.org/ |

| 13 | Internal Continuous Assessment: 40% | Semester End Examination: 60% | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|--|---------------------|---------------|----|---|----|----|----|----|----|--|----|----|----|----|----|---|----|----|----|----|----|--|----|----|----|----|--|
| 14 | Continuous Evaluation through: | 1. Fieldwork-based project work and report or assignment or presentation or report-writing or article/ book review or topic-based activity | 15 marks | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 2. Fieldwork-based project work and report or assignment or presentation or report-writing or article/ book review or topic-based activity | 15 marks | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 3. MCQ Based Test | 10 marks | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Total | 40 marks | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Format of Question Paper: | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Question Number</th> <th>Nature of Questions</th> <th>Maximum Marks</th> </tr> </thead> <tbody> <tr> <td rowspan="4">1)</td> <td>Attempt any THREE of the following: (From Module I)</td> <td rowspan="4">15</td> </tr> <tr> <td>A.</td> </tr> <tr> <td>B.</td> </tr> <tr> <td>C.</td> </tr> <tr> <td rowspan="4">2)</td> <td>Attempt any THREE of the following: (From Module II)</td> <td rowspan="4">15</td> </tr> <tr> <td>A.</td> </tr> <tr> <td>B.</td> </tr> <tr> <td>C.</td> </tr> <tr> <td rowspan="4">3)</td> <td>Attempt any THREE of the following: (From Module III)</td> <td rowspan="4">15</td> </tr> <tr> <td>A.</td> </tr> <tr> <td>B.</td> </tr> <tr> <td>C.</td> </tr> <tr> <td rowspan="4">4)</td> <td>Attempt any THREE of the following: (From Module IV)</td> <td rowspan="4">15</td> </tr> <tr> <td>A.</td> </tr> <tr> <td>B.</td> </tr> <tr> <td>C.</td> </tr> </tbody> </table> | Question Number | Nature of Questions | Maximum Marks | 1) | Attempt any THREE of the following: (From Module I) | 15 | A. | B. | C. | 2) | Attempt any THREE of the following: (From Module II) | 15 | A. | B. | C. | 3) | Attempt any THREE of the following: (From Module III) | 15 | A. | B. | C. | 4) | Attempt any THREE of the following: (From Module IV) | 15 | A. | B. | C. | |
| Question Number | Nature of Questions | Maximum Marks | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1) | Attempt any THREE of the following: (From Module I) | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | B. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | C. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2) | Attempt any THREE of the following: (From Module II) | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | B. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | C. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3) | Attempt any THREE of the following: (From Module III) | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | B. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | C. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4) | Attempt any THREE of the following: (From Module IV) | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | B. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | C. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Signatures of Team Members

| Sr. No. | Name | Signature |
|---------|---------------------|-----------|
| 1. | Mr. Kaustubh Bhagat | |