

**FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)**

**DEPARTMENT OF BOTANY  
COURSE CURRICULUM**

| <b>PART- A: Introduction</b>  |   |   |   |
|---|---|---|---|
| <b>Program: Bachelor in Life Science</b><br><i>(Diploma / Degree/Honors)</i>              |   | <b>Semester - III</b>   | <b>Session: 2024-2025</b>                             |
| 1   | <b>Course Code</b>  | <b>BOSE- 01 T</b>   |   |
| 2   | <b>Course Title</b>   | <b>Natural resources and management</b>   |   |
| 3   | <b>Course Type</b>  | <b>Discipline specific Elective (DSE)</b>   |   |
| 4   | <b>Pre-requisite (if, any)</b>  | <b>As per program</b>   |   |
| 5   | <b>Course Learning Outcomes (CLO)</b>   | At the end of this course, the students will be able to<br>> Understand natural resources and their sustainable utilization.<br>> Knowledge on land, water, energy, and forest resources.<br>> Students will learn about the practices of natural resource management.<br>> Knowledge on the international and national efforts of natural resource management. |   |
| 6   | <b>Credit Value</b>   | <b>3 Credits</b>  | <b>Credit = 15 Hours - learning &amp; Observation</b> |
| 7   | <b>Total Marks</b>  | <b>Max. Marks: 100</b>  | <b>Min Passing Marks: 40</b>                          |
| <b>PART -B: Content of the Course</b>   |   |   |   |
| <b>Total No. of Teaching-learning Periods (01 Hr. per period) - 45 Periods (45 Hours)</b> |   |   |   |
| <b>Unit</b>   | <b>Topics (Course contents)</b>   |   | <b>No. of Period</b>                                  |
| <b>I</b>  | <b>Natural resources</b><br>> Definition and types.<br>> Natural resources' conservation Role of an individual in conservation of natural resources, Significance,<br>> Sustainable utilization of resources' : Concept, approaches economic, ecological, and socio-cultural activities.  |   | <b>12</b>   |
| <b>II</b>   | <b>Land and freshwater resources</b><br>> Land as a resource<br>> Soil erosion and desertification<br>> Soil degradation and management.<br>> Forest resources use and over exploitation, deforestation<br>> Water resources, use and overutilization of surface and ground water<br>> Fresh Marine and estuarine ecosystems;<br>> Wetlands threats and management strategies   |   | <b>11</b>   |
| <b>III</b>  | <b>Biological Resources</b><br>> Biodiversity-definition and types<br>> Value of biodiversity<br>> Biodiversity at global, national and regional levels<br>> Threats; Management strategies;<br>> Bioprospecting. IPR; CBD; National Biodiversity Action Plan).<br>> Forests: Cover and its significance (with special reference to India);<br>> Major and minor Forest products;<br>> Renewable and non-renewable sources of energy. |   | <b>11</b>   |
| <b>IV</b>   | <b>Contemporary practices in resource management</b><br>> National and international efforts in resource management and conservation.<br>> Waste management practices<br>> Natural resource Accounting<br>> Environmental impact assesement EIA<br>> Geographical information System GIS<br>> Participatory Appraisal of naturl Resource<br>> Ecological Footprint with emphasis on carbon footprint,                                 |   | <b>11</b>   |
| <b>Keywords</b>   | <b>Resources, Biodiversity, Resources management, IPR, CBD.</b>   |   |   |

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## PART-C: Learning Resources

### Text Books, Reference Books and Others

#### Text Books Recommended –

1. Vasudevan, N. (2006). Essentials of Environmental Science. Narosa Publishing House, New Delhi.
2. Singh, J. S., Singh, S.P. and Gupta, S. (2006). Ecology, Environment and Resource Conservation. Anamaya Publications, New Delhi.

#### Reference Books Recommended –

- 1, Rogers, P.P., Jalal, K.F. and Boyd, J.A. (2008). An Introduction to Sustainable Development. Prentice Hall of India Private Limited, New Delhi.

#### Online Resources–

- e-Resources / e-books and e-learning portals
- <https://www.sciencedirect.com/topics/social-sciences/natural-resource>
- <https://efaidnbmnnnibpcajpcglclefindmkaj/https://egyankosh.ac.in/bitstream/123456789/66166/2/Unit4.pdf>
- [https://efaidnbmnnnibpcajpcglclefindmkaj/https://www.ers.usda.gov/webdocs/publications/41964/30289\\_biological.pdf?v=0#:~:text=16-.What%20Are%20Biological%20Resources%3F,forests%2C%20and%20other%20natural%20lands.](https://efaidnbmnnnibpcajpcglclefindmkaj/https://www.ers.usda.gov/webdocs/publications/41964/30289_biological.pdf?v=0#:~:text=16-.What%20Are%20Biological%20Resources%3F,forests%2C%20and%20other%20natural%20lands.)
- <http://surl.li/spcdd>
- <https://shorturl.at/ewyLP>
- <https://shorturl.at/cimof>

#### Online Resources–

- e-Resources / e-books and e-learning portals
- [www.swayam.ac.in](http://www.swayam.ac.in)
- [www.ignou.ac.in](http://www.ignou.ac.in)
- [www.egyankosh.ac.in](http://www.egyankosh.ac.in)
- [www.iitm.ac.in](http://www.iitm.ac.in)
- [www.eskillindia.org](http://www.eskillindia.org)
- [www.eshiksha.mp.gov.in](http://www.eshiksha.mp.gov.in)
- [www.vlab.co.in](http://www.vlab.co.in)
- [www.internshala.com](http://www.internshala.com)
- [www.ndl.iitkgp.ac.in](http://www.ndl.iitkgp.ac.in)

## PART -D: Assessment and Evaluation

### Suggested Continuous Evaluation Methods:

Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

End Semester Exam (ESE): 70 Marks

|  |   |   |
|--|---|---|
| Continuous Internal Assessment (CIA): 30 (By Course Teacher) | Internal Test / Quiz-(2): 20 +20  | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 30 Marks |
|  | Assignment / Seminar - 10   |   |
|  | Total Marks - 30  |   |
| End Semester Exam (ESE): 70                                  | Two section – A & B<br>Section A: Q1. Objective – 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20 Marks<br>Section B: Descriptive answer type qts., 1out of 2 from each unit-4x10=40 Marks |   |

### Name and Signature of Convener & Members of CBoS:

- |                      |                      |
|----------------------|----------------------|
| ① <i>Rishu</i>       | ⑦ <i>Aditi</i>       |
| ② <i>Pranshu</i>     | ⑧ <i>Sanjay</i>      |
| ③ <i>[Signature]</i> | ⑨ <i>[Signature]</i> |
| ④ <i>[Signature]</i> | ⑩ <i>[Signature]</i> |
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