

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)

DEPARTMENT OF BOTANY

COURSE CURRICULUM

| PART- A: Introduction | | | |
|---|--|--|---|
| Program: Bachelor in Life Sciences (Certificate / Diploma / Degree/Honors) | | Semester - I | Session: 2024-2025 |
| 1 | Course Code | BOSC -01 T | |
| 2 | Course Title | Elementary Botany | |
| 3 | Course Type | Discipline Specific course (DSC) | |
| 4 | Pre-requisite (if, any) | As per program | |
| 5 | Course Learning Outcomes (CLO) | At the end of this course, the students will be able to > Understand the Basics of Botany and its branches. > Get acquainted with complex interrelationship between organisms and environment. > Develop a comprehensive understanding of the identification, cultivation, and processing of medicinal plants, and their chemical constituents. > Utilize plants resources for livelihood. | |
| 6 | Credit Value | 3 Credits | Credit = 15 Hours - learning & Observation |
| 7 | Total Marks | Max. Marks: 100 | Min Passing Marks: 40 |
| PART -B: Content of the Course | | | |
| Total No. of Teaching-learning Periods (01 Hr. per period) - 45 Periods (45 Hours) | | | |
| Unit | Topics (Course contents) | | No. of Period |
| I | Basics of Plant Science: Differences and resemblances between; living and nonliving plants and animals, plant and animal cell. Concept of prokaryotes and eukaryotes. Important features of thallophyta, Bryophyta, Pteridophyta, Gymnosperm and Angiosperm. Structure and function of a typical flowering plant. | | 12 |
| II | Branches of botany: General idea, features, and significance; Anatomy, Cytology, Economic Botany, Ethnobotany, Forestry, Genetics, Histology, Microbiology, Paleobotany, Phytochemistry, Phytopathology, Plant biotechnology, Plant breeding, Plant ecology, Plant morphology, Plant physiology, Plant Taxonomy, etc. | | 11 |
| III | Plants for human welfare: Plant Resources for Rural livelihood – Mahua, Tendu patta, Bamboo and Firewood. Ethnobotany in India: Methods to study Ethnobotany, Applications of Ethnobotany, ethnomedicinal plants and ethnoecology. Application of plant products for certain diseases- Cough and cold, Jaundice, Infertility, Diabetes, Blood pressure and Skin diseases. | | 11 |
| IV | Ancient Indian Botany: Indigenous Medicinal Sciences; Definition and Scope-Ayurveda: History, origin, panchamahabhutas, saptadhatu and tridosha concepts, Rasayana, plants used in ayurvedic treatments, Siddha: Origin of Siddha medicinal systems, Basis of Siddha system, plants used in Siddha medicine. Unani: History, concept. Charaksamhita. Ancient and modern Botanists and their contributions.-Charak, Jagdish Chandra Bose, B.P.Pal, Desikachary, K.C. Mehta M.S. Swaminathan etc. | | 11 |
| Keywords | Prokaryotes, Ethnobotany, Taxonomy, Ayurveda | | |
| Signature of Convener & Members (CBoS) : | | | |

① Bhowan

② Purohit

③ Sharma

④ Singh

⑤ Malhotra

⑥ Singh

⑦ Singh

⑧ Singh

⑨ Singh

⑩ Singh

⑪ Singh

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended –

1. College Botany Ganguli Kar and dutta , HIMALAYA Publishers
2. "Handbook of Medicinal Plants" by L.D. Kapoor
3. "Indian Medicinal Plants: An Illustrated Dictionary" by C.P. Khare
4. "Medicinal Plants in India: Conservation and Sustainable Utilization in the Emerging Global Scenario" edited by V.K. Gupta
5. "A Compendium of Medicinal Plants in India: An Introduction to Ayurveda" by S.L. Kochhar
6. A handbook of forest utilization by T. Mehta
7. Plants and human welfare by O.P.Sharma

Reference Books Recommended –

1. Charak Samhita
2. Medicinal Plants of India" by C.P. Khare

Online Resources–

- e-books and e-learning portals
- www.swayam.ac.in
- www.ignou.ac.in
- www.egvankosh.ac.in
- www.iitm.ac.in
- www.eskillindia.org
- www.eshiksha.mp.gov.in
- www.vlab.co.in
- www.internshala.com
- www.ndl.iitkgp.ac.in

Online Resources–

e-Resources / e-books and e-learning portals

- <https://extension.oregonstate.edu/collection/botany-basics>
- <https://www.pbs.org/video/botany-basics-iuu2bl/>
- <https://efaidnbmnnnibpcajpcglclefindmkaj/https://www2.ca.uky.edu/agcomm/pubs/ho/ho96/ho96.pdf>
- <https://www.botanytoday.com/branches-of-botany/>
- <https://efaidnbmnnnibpcajpcglclefindmkaj/https://www.unanijournal.com/articles/94/3-1-11-206.pdf>
- https://efaidnbmnnnibpcajpcglclefindmkaj/https://wgbis.ces.iisc.ac.in/biodiversity/sahyadri/documents/botany_history.pdf
- <https://vedpuran.files.wordpress.com/2016/07/charaksamhitaatrivedavajigupt-vol-1.pdf>
- <https://egvankosh.ac.in/handle/123456789/89429>

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

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|--|---|---|
| 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 Section A: Q1. Objective – 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20 Marks Section B: Descriptive answer type qts., 1out of 2 from each unit-4x10=40 Marks | |

Name and Signature of Convener & Members of CBoS:

① R.D. Sanyal
② K. Sanyal
③ S. Sanyal
④ M. Sanyal
⑤ S. Sanyal
⑥ S. Sanyal

⑦ S. Sanyal
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