



**SARVODAYA KELAVANI SAMAJ MANAGED,
SHREE MANIBHAI VIRANI & SMT. NAVALBEN VIRANI SCIENCE
COLLEGE**

AN AUTONOMOUS COLLEGE- AFFILIATED TO SAURASHTRAUNIVERSITY, RAJKOT

Re-accredited at the 'A' Level (CGPA 3.28) by NAAC

'STAR' College Scheme & Status by MST-DBT

A College with Potential for Excellence - CPE (Phase-II) by UGC

UGC-DDU KAUSHAL Kendra

Accredited at the G-AAA Highest Grade 'A-1' Level by KCG, Govt. of Gujarat

UGC-DDU KAUSHAL Kendra

GPCB-Government of Gujarat approved Environment Audit Centre

Enclosure I (D)

**DSE – Allied BOTANY
SEMESTER II**

(With Microbiology)

19UMBDA201	Botany	3 Hrs/Week	3 Credits
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Objective

- This course is survey of the botanical aspects of plant diversity, morphology, physiology Anatomy.
- Improve understanding of the structure functioning of medical botany and plant pathology.
- Development of personal perception of plants and environment.

Unit I: Plant Kingdom

(09 Hrs)

- General characters and classification of Thallophyta.

- General account and outline of classifications of Bryophyta
- General account and outline of classifications of Pteridophyta
- General account and outline of classifications of Gymnosperms
- General account and outline of classifications of Angiosperms

Unit-II Plant Physiology and Plant Anatomy

(09 Hrs)

- Plant-water relations
- Photobiology
- Types of simple tissue
- Types of complex tissue
- Microtomy

Unit- III Plants Products

(09 Hrs)

- Alkaloids yielding plants – Sarp Gandha, Tobacco
- Dye yielding plants – Heena, Kesudo
- Oil yielding plants – Ground nut, Nilgiri
- Resin yielding plants – Pinus, Gugal
- Gum yielding plants – Neem, Baval

Unit- IV Medicinal Plants

(09 Hrs)

- Usage of plants for wellness of respiratory disease – Arduisi, Tulsi
- Usage of plants for wellness of gastrointestinal disease – Kariyatu, Kadu
- Usage of plants for wellness of dermatological disease –, Turmaric, Chandan
- Usage of plants for wellness of cancer disease – Kuvarpathu, Barmasi
- Scope and future of medicinal plants

Unit-V Plant Pathology

(09 Hrs)

- General symptoms of disease
- Tikka disease of ground nut
- Red rot of sugar cane

- Different methods of plant disease control
- Citrus canker

Text Books:

- Raven, P.H., Johnson, G.B., Losos, J.B., Singer, S.R. (2005). Biology. Tata McGraw Hill, Delhi (For Unit 1, 2, 3, 4).
- Sharma, P.D. (2011). Plant Pathology, Rastogi Publication, Meerut, India. (For Unit 5)

Reference Books:

- Agnes Arber (1999). Herbal plants and Drugs. Mangal Deep Publications.
- Taiz, L., Zeiger, E., MØller, I.M. and Murphy, A (2015). Plant Physiology and Development.
- Sinauer Associates Inc. USA. 6th edition.

PRACTICALS:

19UMBDA202	Botany Practical	6 Hrs/Week	2 Credit
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Objective

- This course is survey of the botanical aspects of plant diversity, morphology, physiology Anatomy.
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 - Development of personal perception of plants and environment.
1. Observational study of Blue green algae – Nostoc through specimen and slides.
 2. Observational study of Green algae – Spirogyra through specimen and slides.
 3. Observational study of Brown algae – Sargassum through specimen and slides.
 4. Observational study of Red algae – Batrachospermum through specimen and slides.
 5. Observational study of Fungi- Mucor through specimens and slides.

6. Observational study of Fungi- Peziza through specimens and slides.
7. Observational study of Fungi- Agaricus through specimens and slides.
8. Observational study of Bryophyta – Marchantia through specimens and slides.
9. Observational study of Bryophyta – Funaria through specimens and slides.
10. Observational study of Pteridophyta – Adiantum through specimens and slides.
11. Observational study of Gymnosperm – Cycas through specimens and slides.
12. Study of Rotary Microtome.
13. Demonstrate water potential of given tissue (potato tuber).
14. To study evaluation of oxygen during photosynthesis.
15. To study of simple and complex tissue.
16. To study of plant products – Alkaloids.
17. To study of plant products – Dye.
18. To study of plant products – Oil.
19. To study of plant products – Resin.
20. To study of plant products – Gum.
21. To study of medicinal plants - wellness of respiratory disease.
22. To study of medicinal plants - wellness of Gastrointestinal disease
23. To study of medicinal plants - wellness of dermatological disease.
24. To study of medicinal plants - wellness of Cancer disease.
25. Study of Plant disease.
26. To understand floral formula and floral diagram.

References:

- Bendre & Kumar, A text book of Practical Botany part I & II, 2010, Rastogi Publication, Meerut.
- Dr. B. P. Pandey, Modern Practical Botany (Vol-I, II & III), 2012, S. Chan Publication, New Delhi

