

**GOVT. DIGVIJAY AUTONOMOUS P.G. COLLEGE,
RAJNANDGAON (C.G.)**



TEACHING PLAN

DEPARTMENT OF BOTANY

2023-24

2023-24
M.Sc. BOTANY
PAPER I M.M-80
TAXONOMY AND DIVERSITY OF BRYOPHYTA,
PTERIDOPHYTA AND GYMNOSPERMS
Credit 4

UNIT-1. (10) Lecture. 15 January - 31 January

Bryophyta: Morphology, structure, reproduction and life history, distribution, and classification.

General account: **Marchantiales** - *Riccia*, *Ricciocarpus*, *Cyathodium*, *Dumortiera*
Jungermaniales - *Riccardia*, *Porella* **Anthocerotales** - *Anthoceros*, *Notothylas*,
Sphagnales- *Sphagnum*, **Funariales** - *Funaria* and **Polytrichales** - *Pogonatum*.
Economic and ecological importance of Bryophyta.

UNIT-2. (18) Lecture. 1 Feb → 29 February - 2024

Pteridophyta: Morphology, anatomy, reproduction and classification of Pteridophyta, evolution of stele and heterospory, origin of seed habit.

General account of fossil Pteridophyta with special reference to *Rhynia*.

Introduction to Psilopsida: - *Psilotum*, *Tmesipteris*, **Lycopsida**- *Lycopodium*,
Phylloglossum, *Lepidodendron*, *Isoetes*, **Sphenopsida** - *Calamophyton*, *Calamites*,
Sphenophyllum, *Equisetum*, and **Pteriopsida**- *Bryopteris*, *Ophioglossum* *Osmunda*,
Cyathea, *Salvinia*, *Azolla*.

UNIT-3. (18) Lecture. 1 March - 7/3/ March 2024

Gymnosperms: General characters mentioning diversity, origin and evolution of gymnosperm stele, resemblances and differences among Pteridophyta, Gymnosperms and Angiosperms.

Origin of Paleozoic ovules.

Classification and distribution of Gymnosperms in India, Gymnosperm biotechnology.

General account: Pteridospermales, Glossoptridales and Caytoniales.

UNIT-4. (20) Lecture, 1 April - 30 April

General account: **Cycadeiodes** *Cycadeiodia*, **Pentoxylales**, General account **Cycadales**-
Cycas **Ginkgoales**- *Ginkgo*, **Coniferales**- *Pinus* & *Taxus*, **Ephedrales**- *Ephedra*,
Gnetales- *Gnetum* and **Welwitschiales**- *Welwitschia*. *Williamsonia* / *pentoxylales*.

2023-24
M.Sc.BOTANY
PAPER IV
PLANT DISEASE & CONTROL MECHANISM
Credit 4

M.M. - 80

Unit-1. 15 January to 31 January (10) Lecture
Diseases due to fungi: - Rusts, Smuts, Downy mildews, Powdery mildews. Wilts, Leaf blight, Ergots, Tikka, Necrosis, Red Rots, Damping off, Warts, stem gall.

Unit-2. 1 Feb to 29 Feb. (18) Lecture
Diseases due to bacteria: - Blight of rice, Tundu disease, Citrus canker, Crown gall of stone fruits, Angular leaf spots.
Diseases due to viruses: - Mosaic of tobacco, potato, tomato and banana; Leaf curl of tomato and papaya; Yellow vein mosaic of bhindi, Bunchy top of banana.

Unit 3. 1 March to 31 March (18) Lecture
Diseases due to mycoplasma: - Sandal spike, Little leaf of brinjal, Grassy shoot disease, sesamum, phyllody, citrus greening.
Diseases due to nematodes: - General characters of plant nematodes, Root knot, Malaya disease of barley, wheat, Citrus nematodes, Ear cockles of wheat.
Non Parasitic Disease and angiospermic parasite

Unit 4. 1 April to 30 April (20) Lecture.
Principles of plant disease control: - Regulatory, chemical and biological control, breeding with resistant varieties of host plants, Plant quarantine, Recurrence of disease with special reference to rust disease in India.

Dr. Kiran Jain

B. Sc. IV Semester (BOTANY)
DSC/ Core Course IV

Title			Plant Taxonomy
Units	Lectures	Credits	Syllabus
I	12	3	Taxonomy of angiosperms: History, Systems of classification, Bentham and Hooker system of classification, Binomial nomenclature, International Code of Botanical Nomenclature for Algae, Fungi and Plants, Modern trends of taxonomy: Chemotaxonomy, Numerical Taxonomy, Herbarium technique, Preservation of plant materials, Botanical gardens, important botanical gardens: Royal Botanical Garden Edinburgh Scotland, Royal Botanical Garden Kew England, The Indian Botanical Garden Shibpur, Kolkata, National Botanical Garden Lucknow, Forest Research Institute Botanical Garden Deharadun.
II	13		Terminology used in Plant systematics: Terminology for botanical description of plants including habit & habitat, root and its modification, stem and its modification, leaf: shape of lamina, leaf margin, leaf apex, leaf surface, leaf types, venation; inflorescence, flower, accessory whorls of flower: calyx, corolla, aestivation; androecium: stamen: fixation of anther, no. of stamen, length of stamen, cohesion, adhesion; gynoecium, types of placentation, types of ovule, fruit, seeds, pollination, symbols used in plant description, formation of floral diagram.
III	10		Plant systematics: Systematic position, Distinguishing characters and Economic importance of the following families: Ranunculaceae, Papaveraceae, Brassicaceae, Caryophyllaceae, Malvaceae, Rutaceae, Fabaceae, Rosaceae, Cucurbitaceae, Apiaceae. ✓
IV	10		Plant systematics: Systematic position, Distinguishing characters and Economic importance of the following families: Rubiaceae, Asteraceae, Apocynaceae, Asclepiadaceae, Solanaceae, ✓ Acanthaceae, Lamiaceae, Euphorbiaceae, Liliaceae, Poaceae.
Total	45 Lectures	3 Credits	

20 Jan

to

20 Feb

21 Feb

to

10 March

10

March

to

31 March

1 April

to

30 April

Evaluation Scheme for Theory

Exam Type	Marks
End Term Exam	80
Internal Exam	20
Total marks	100

Dr. G.K. Chandrol
Kalyan College
Bhilai, Durg, C.G.

Dr. Pratiksha Pandey
Bhilai Mahila Mahavidhyala
Bhilai, Durg, C.G.

Dr. Usha Chandel
Govt. W.W. Patankar College
Durg, C.G.

B.Sc. IV VAC-II (Cred: - 2)

Biodiversity and its conservation

Unit - III - Sustainable development: Basic concept,
8 Lecture - Principles of sustainable development, global initiative on sustainable development.

Biodiversity conservation: Basic concepts of conservation, in situ conservation: Sanctuaries, National park, Biosphere reserve.

Unit - IV - ex situ conservation, Botanical gardens, Gene
7 Lecture - Banks, Seed bank, Cryobanks.

General account of Activities of Botanical Survey of India. (BSI) Forest Research Institute. (FRI)

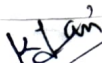
Evaluation Scheme for theory


<u>Exam Type</u>	<u>Marks</u>
End Term Exam.	40
Internal exam.	10
Total marks.	50

B.Sc. IV Women Empowerment

Unit 3 →
(7 lect) Empowerment process of women - Role of government, Role of non government organization, Role of media.
महिला सशक्तिकरण की प्रक्रिया, सरकार की भूमिका 7 Lectures
गैर सरकारी संस्थानों एवं मीडिया की भूमिका

Unit - 4 → Policies and Enforcement Mechanisms. - Women
(8 Lect.) Empowerment Policy, Women Police station, Women Court, National Commission for women.
(नीतिगत एवं प्रवर्तन मशीनरी - महिला सशक्तिकरण नीति, महिला पुलिस स्टेशन, महिला न्यायालय, राष्ट्रीय महिला आयोग)


Teacher's Sign.


HoD's Sign.