

Mohanlal Sukhadia University
Udaipur

Department of Botany



Syllabus and Scheme of Examination
For
M.Sc. CBCS Programme Botany

Effective from July, 2019

Department of Botany
Mohanlal Sukhadia University
CBCS Scheme of Syllabus for M.Sc. Botany

| Course code | Title of the Course | No. of credits | University exam | Internal assessment | Total |
|---------------------------|--|----------------|-----------------|---------------------|-------|
| SEMESTER I | | | | | |
| M1BOT01-CT01 | BIOLOGY AND DIVERSITY OF ALGAE AND BRYOPHYTES | 4 | 80 | 20 | 100 |
| M1BOT02-CT02 | MICROBIOLOGY, MYCOLOGY AND PLANT PATHOLOGY | 4 | 80 | 20 | 100 |
| M1BOT03-CT03 | CYTOGENETICS, GENETICS AND PLANT BREEDING | 4 | 80 | 20 | 100 |
| M1BOT04-CT04 | PLANT ECOLOGY, CONSERVATION AND EVOLUTION | 4 | 80 | 20 | 100 |
| M1BOT05-CP01 | PRACTICAL 1 | 4 | 80 | 20 | 100 |
| M1BOT06-CP02 | PRACTICAL 2 | 4 | 80 | 20 | 100 |
| | | | 480 | 120 | 600 |
| SEMESTER II | | | | | |
| M2BOT01-CT05 | PTERIDOPHYTES, GYMNOSPERMS AND PALAEOBOTANY | 4 | 80 | 20 | 100 |
| M2BOT02-CT06 | PLANT DEVELOPMENTAL BIOLOGY AND RESOURCE UTILIZATION | 4 | 80 | 20 | 100 |
| M2BOT03-CT07 | CELL AND MOLECULAR BIOLOGY | 4 | 80 | 20 | 100 |
| M2BOT04-CT08 | PLANT GROWTH AND DEVELOPMENT | 4 | 80 | 20 | 100 |
| M2BOT05-CP03 | PRACTICAL 3 | 4 | 80 | 20 | 100 |
| M2BOT06-CP04 | PRACTICAL 4 | 4 | 80 | 20 | 100 |
| BOT-SP | SKILL COURSE ELECTIVE 1 (select any one from the list) | 2 | 80 | 20 | 100 |
| | | | 560 | 140 | 700 |
| SEMESTER III | | | | | |
| M3BOT01-CT09 | PLANT BIOCHEMISTRY AND PHYSIOLOGY | 4 | 80 | 20 | 100 |
| M3BOT02-CT10 | PLANT SYSTEMATICS | 4 | 80 | 20 | 100 |
| M3BOT03-ET01 (A/B/C/D) | DSE 1 (select any one group from the list 1) | 4 | 80 | 20 | 100 |
| M3BOT04-ET02 (A/B/C/D) | DSE 2 (select any one group from the list 2) or MINOR RESEARCH PROJECT | 4 | 80 | 20 | 100 |

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|------------------------|--|---|-----|-----|-----|
| M3BOT05-CP05 | PRACTICAL 5 | 4 | 80 | 20 | 100 |
| M3BOT06-EP01 | PRACTICAL 6 | 4 | 80 | 20 | 100 |
| | | | 480 | 120 | 600 |
| SEMESTER IV | | | | | |
| M4BOT01-CT11 | PLANT TISSUE CULTURE AND GENETIC ENGINEERING | 4 | 80 | 20 | 100 |
| M4BOT02-CT12 | TOOLS AND TECHNIQUES IN PLANT SCIENCES | 4 | 80 | 20 | 100 |
| M4BOT03-ET03 (A/B/C/D) | DSE 3 (Second paper of group selected in III semester) | 4 | 80 | 20 | 100 |
| M4BOT04-ET04 (A/B/C/D) | DSE 4 (Second paper of group selected in III semester) or MINOR RESEARCH PROJECT | 4 | 80 | 20 | 100 |
| M4BOT05-CP06 | PRACTICAL 7 | 4 | 80 | 20 | 100 |
| M4BOT06-EP02 | PRACTICAL 8 | 4 | 80 | 20 | 100 |
| BOT-SP | SKILL COURSE ELECTIVE 2 (select any one from the list) | 2 | 80 | 20 | 100 |
| | | | 560 | 140 | 700 |

Core Courses

| Course Code | Title of the Course |
|--------------|--|
| M1BOT01-CT01 | BIOLOGY AND DIVERSITY OF ALGAE AND BRYOPHYTES |
| M1BOT02-CT02 | MICROBIOLOGY, MYCOLOGY AND PLANT PATHOLOGY |
| M1BOT03-CT03 | CYTOGENETICS, GENETICS AND PLANT BREEDING |
| M1BOT04-CT04 | PLANT ECOLOGY, CONSERVATION AND EVOLUTION |
| M2BOT01-CT05 | PTERIDOPHYTES, GYMNOSPERMS AND PALAEOBOTANY |
| M2BOT02-CT06 | PLANT DEVELOPMENTAL BIOLOGY AND RESOURCE UTILIZATION |
| M2BOT03-CT07 | CELL AND MOLECULAR BIOLOGY |
| M2BOT04-CT08 | PLANT GROWTH AND DEVELOPMENT |
| M3BOT01-CT09 | PLANT BIOCHEMISTRY AND PHYSIOLOGY |
| M3BOT02-CT10 | PLANT SYSTEMATICS |
| M4BOT01-CT11 | PLANT TISSUE CULTURE AND GENETIC ENGINEERING |
| M4BOT02-CT12 | TOOLS AND TECHNIQUES IN PLANT SCIENCES |
| M1BOT05-CP01 | PRACTICAL 1 |
| M1BOT06-CP02 | PRACTICAL 2 |
| M2BOT05-CP03 | PRACTICAL 3 |
| M2BOT06-CP04 | PRACTICAL 4 |
| M3BOT05-CP05 | PRACTICAL 5 |
| M3BOT06-EP01 | PRACTICAL 6 |
| M4BOT05-CP06 | PRACTICAL 7 |
| M4BOT06-EP02 | PRACTICAL 8 |

List 1: Discipline Specific Electives: Select any one group from following options:

| DSE 1 and DSE 3 are linked together in a group | | III Semester III Paper | | IV Semester III Paper* |
|--|----------------|--|----------------|--|
| Group | Code | DSE1 - Paper | Code | DSE3 - Paper |
| A | M3BOT03-ET01-A | BIOSYSTEMATICS–I | M4BOT03-ET03-A | BIOSYSTEMATICS–II |
| B | M3BOT03-ET01-B | PRINCIPLES OF PATHOLOGY AND PLANT DISEASES | M4BOT03-ET03-B | MOLECULAR PLANT PATHOLOGY AND DISEASE MANAGEMENT |
| C | M3BOT03-ET01-C | BIOLOGY AND EVOLUTION IN BRYOPHYTES-I | M4BOT03-ET03-C | BIOLOGY AND EVOLUTION IN BRYOPHYTES-II |
| D | M3BOT03-ET01-D | RESTORATION ECOLOGY | M4BOT03-ET03-D | CONSERVATION BIOLOGY |

***In fourth semester, group will be same as chosen in third semester, and second paper of that group will be allotted to students during fourth semester.**

List 2: Discipline Specific Electives: Select any one group from following options or Minor Research Project

| DSE 2 and DSE 4 are linked together in a group | Code | III Semester IV Paper | Code | IV Semester IV Paper* |
|--|----------------|--|----------------|--|
| Group | | DSE2 - Paper | | DSE4 - Paper |
| A | M3BOT04-ET02-A | PLANT BIOENERGETICS AND APPLIED BIOCHEMISTRY | M4BOT04-ET04-A | SECONDARY METABOLITES AND BIOPROCESS ENGINEERING |
| B | M3BOT04-ET02-B | PRINCIPLES OF MICROBIAL TECHNOLOGY | M4BOT04-ET04-B | APPLICATIONS OF MICROBIAL TECHNOLOGY |
| C | M3BOT04-ET02-C | ADVANCED PHYCOLOGY | M4BOT04-ET04-C | APPLIED PHYCOLOGY |
| D | M3BOT04-ET02-D | APPLIED PLANT SCIENCES | M4BOT04-ET04-D | COMMERCIALIZATION OF MICROPROPAGATION TECHNOLOGIES |

Minor Research Project:

| | | |
|----------------|---------------------------|--|
| SEMESTER - III | M3BOT02-ET02 (A/B/C/D) | Minor Research Project: Credit hours for minor research project and marking schemes is equivalent to other DSEs. Students have to submit a hardcopy of dissertation and give a presentation of minor research work for evaluation. Details of dissertation proforma and marking scheme is enclosed as Annexure I. |
| SEMESTER - IV | M4BOT04-ET04 (A/B/C/D) | Same as above |

Skill Course Elective 1 (select any one option)

| Course Code | Title of the course |
|--------------------|--|
| M2-BOT-SP-01 | ENGLISH COMMUNICATION |
| M2-BOT-SP-02 | COLLECTION, PROCESSING, PRESERVATION & SALE OF PLANT MATERIALS |
| M2-BOT-SP-03 | BIOFERTILIZERS |
| M2-BOT-SP-04 | BIOINFORMATICS |
| M2-BOT-SP-05 | FOREST ECOLOGY |

Skill Course Elective 2 (select any one option)

| Course Code | Title of the course |
|--------------------|--|
| M4-BOT-SP-06 | INTELLECTUAL PROPERTY RIGHT |
| M4-BOT-SP-07 | NURSERY, GARDENING & GREEN HOUSE PRACTICES |
| M4-BOT-SP-08 | ENVIRONMENTAL MONITORING, MANAGEMENT AND RESTORATION |
| M4-BOT-SP-09 | SCIENTIFIC WRITING |