DEPARTMENT OF BOTANY AND MICROBIOLOGY

SYLLABUS

M.Sc. (BOTANY)

HNB GARHWAL UNIVERSITY, SRINAGAR-GARHWAL

SYLLABUS

SCHOOL OF LIFE SCIENCES

PROGRAMME- M.Sc. BOTANY

2015-2016 ONWARDS

(Two Year Course- Semester System)

Admission of the Master's Program in Botany shall be through entrance examination conducted by the University and the program shall be based on credit system in which credit defines the quantum of content/ syllabus prescribed for a course system and determines the number of hours of instruction per week.

The student shall be eligible for admission to a Master's Degree Program in Botany after he/she has successfully completed a three year undergraduate degree or earned prescribed number of credits (under CBCS) through the examinations conducted by University as equivalent to an undergraduate degree.

Core courses prescribed for every Semester shall be mandatory for all students registered for the Master's Program in Botany and shall carry minimum 54 credits. Besides this there shall be Elective courses offered in semester III and IV and shall carry a minimum of 18 credits. A self study course would comprise of maximum 09 credits of which one minimum 03 credits shall be mandatory which shall not be included while calculating grades.

Each candidate is expected to participate in the field surveys and excursions required for the Laboratory Courses as and when organized by the Department. Subsequent to that the student would have to present a detailed report of such visits at the time of Semester Practical examination.

In order to qualify for a two year master's degree, a student must acquire a minimum of 72 credits including a minimum of 18 credits in electives choosing at least two elective (leading to a minimum 06 credits) offered by other departments and one qualifying self study course of minimum 03 credits.

Dissertation is an elective one. The dissertation is to be allotted in the beginning of III Semester and would be submitted during the examination of the IV Semester. In lieu of dissertation any two of the given elective papers of 03 credits each and one lab course (of both elective papers) of 03 credits (total 09 credits) may be chosen by those students who secure less than 75% up to IInd semester level. The Dissertation may be allotted at the start of IIIrd semester to those students who secure 75% or more up to IInd semester level and the Dissertation would be submitted at the time of IV Semester practical examination.

M.Sc. I Semester (July - November)

C ode	Paper	Credits				MM
		L	T	P	C	
SLS/BOT/C001	Mycology and Microbiology	3	0	0	3	100
SLS/BOT/C002	Phycology and Bryology	3	0	0	3	100
SLS/BOT/C003	Pteridology, Gymnosperm and Palaeobotany	3	0	0	3	100
SLS/BOT/C004	Taxonomy and Diversity of Flowering Plants	3	0	0	3	100
SLS/BOT/C005	Laboratory Course I	0	0	3	3	100
SLS/BOT/C006	Laboratory Course II	0	0	3	3	100
Total						**600**

Core Credits = 18

M.Sc. II Semester (December - April)

C ode	Paper	Credits				MM
		L	T	P	C	
SLS/BOT/C007	Plant Development and Reproductive Biology	3	0	0	3	100
SLS/BOT/C008	Resource Utilization, IPR and Ethnobotany	3	0	0	3	100
SLS/BOT/C009	Cytogenetics and Molecular Biology	3	0	0	3	100
SLS/BOT/C010	Plant Breeding and Biostatistics	3	0	0	3	100
SLS/BOT/C011	Laboratory Course I	0	0	3	3	100
SLS/BOT/C012	Laboratory Course II	0	0	3	3	100
Total						**600**

Core Credits = 18 with additional 03 Credits of Self Study

M.Sc. III Semester (July - November)

C ode	Paper	Credits				MM
		L	T	P	C	
SLS/BOT/C013	Plant Physiology and Biochemistry	3	0	0	3	100
SLS/BOT/C014	Ecology and Remote Sensing	3	0	0	3	100
SLS/BOT/C015	Laboratory Course – I	0	0	3	3	100
SLS/BOT/ E001A	Recombinant DNA Technology	3	0	0	3	100
SLS/BOT/E001B	Forest Ecology	3	0	0	3	100
SLS/BOT/E001C	Natural Resource Management in Himalaya	3	0	0	3	100
SLS/BOT/ E001D	Palynology and Pollination Biology	3	0	0	3	100
SLS/BOT/E001E	Any other elective course offered by other department	3	0	0	3	100
SLS/BOT/ E002A	Plant Health Management	3	0	0	3	100
SLS/BOT/E002B	Diversity and Cultivation of Mushrooms	3	0	0	3	100
SLS/BOT/E002C	Applied Plant Anatomy	3	0	0	3	100
SLS/BOT/ E002D	Ecosystem Analysis, GIS and Remote Sensing	3	0	0	3	100
SLS/BOT/E002E	Any other elective course offered by other department	3	0	0	3	100
SLS/BOT/E003	Laboratory Course – II	0	0	3	3	100
Total						**600**

Total Credits = 18 (Core Credits 09+ Elective Credits 09) with additional 03 Credits of Self Study*

M.Sc. IV Semester (December - April)

C ode	Paper	Credits				MM
		L	T	P	C	
SLS/BOT/C016	Conservation Biology	3	0	0	3	100
SLS/BOT/C017	Biotechnology and Genetic Engineering of Plants and Microbes	3	0	0	3	100
SLS/BOT/C018	Laboratory Course - I	0	0	3	3	100
SLS/BOT/E004	Dissertation	0	0	9	9	300
Total						**600**

Dissertation/ Project Work

Anatomy of Himalayan woods
Chromosome Analysis and Indexing of Himalayan Flora
Conservation of endangered species
Environment Impact Assessment
High altitude Ecology and Climate Change
Invasion Ecology
Inventorization of unexplored Areas and Hotspots
Limnology
Plant Biodiversity Assessment
Pollution Monitoring
Population/weed/ Reproductive Biology Survey of Less known
Economic Plants
Any other current trends / topics suggested by the Departmental committee

The distribution of marks for the Dissertation will be as below:

Periodical Presentation : 60 Marks

Dissertation : 180 Marks

Viva Voce : 60 Marks

Total : 300 Marks

The dissertation/ project report shall be evaluated jointly by the supervisor and one external examiner.

In lieu of dissertation any two of the following papers with their practical (03 credit each) can be opted

C ode	Paper	Credits				MM
		L	T	P	C	
SLS/BOT/E005A	XXIIb. Propagation Techniques	3	0	0	3	100
SLS/BOT/E005B	XXIIc. Environment Management with Reference to Western Himalaya.	0	3	0	3	100
SLS/BOT/E005C	XXIId. Bioinformatics and Biological Database	3	0	0	3	100
SLS/BOT/E005D	XXIIe. Seed Pathology	3	0	0	3	100
SLS/BOT/E006	Laboratory Course - II	0	0	3	3	100
(Any two papers and their Lab. Course)			**Total**			**300**