

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)

**DEPARTMENT OF BOTANY
COURSE CURRICULUM**

PART- A: Introduction			
Program: Bachelor in Life Sciences <i>(Certificate / Diploma / Degree/Honors)</i>		Semester - II	Session: 2024-2025
1	Course Code	BOSC- 02	
2	Course Title	Lab. Course -02 (Microbes and Thallophyta)	
3	Course Type	Laboratory course	
4	Pre-requisite (if, any)	As per program	
5	Course Learning Outcomes (CLO)	<ol style="list-style-type: none"> 1. Understand the Viruses, Bacteria, Phycology, Mycology and Plant pathology 2. Learn microbial techniques which will be beneficial for agriculture and industry. 3. Learn life cycles of selected genera of different groups 4. Understand etiology of plant diseases 5. Apply their knowledge in the crop fields to eradicate or avoid the diseases 	
6	Credit Value	1 Credits	Credit =30 Hours Laboratory or Field learning/Training
7	Total Marks	Max. Marks: 50	Min Passing Marks: 20
PART -B: Content of the Course			
Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)			
Module	Topics (Course contents)		No. of Period
Lab./Field Training/ Experiment Contents of Course	<ol style="list-style-type: none"> 1. Collection of viral/ Bactrial /fungal infected plants 2. Study of plant disease symptoms caused by viral/ Bactrial /fungal/ Mycoplasma 3. BACTERIAL IDENTIFICATION: Isolation of bacteria Staining techniques: Gram's, staining 4. Study / Slide preparation of available Cyanobacteria 5. PHYCOLOGY: Study / Slide preparation and Staining of algae –<i>Volvox, Oedogonium</i> and <i>Chara; Vaucheria; Ectocarpus Polysiphonia</i> 6. MYCOLOGY: Study/ Slide preparation and . Staining of fungi. <i>Mucor, Phytophthora, Penicillium, Peziza, Ustilago, Puccinia; Agaricus, colletotrichum, Alternaria.</i> Study of Button and Oyster Mushroom Lichens: crustose, foliose and fruticose specimens. Study of VAM fungi 		30
Keywords	infected plants, VAM, algae, fungi		
Signature of Convener & Members (CBoS) :			

① R. Sivas
 ② S. Suresh
 ③ S. Mohan
 ④ V. S.
 ⑤ S. Suresh
 ⑥ V. S.
 ⑦ S. Suresh
 ⑧ S. Suresh
 ⑨ S. Suresh
 ⑩ S. Suresh

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended –

1. Practical Botany (Part I) ISBN #:81-301-0008-8 Sunil D Purohit, Gotam K Kukda & Anamika Singhvi Edition:2013 Apex Publishing House Durga Nursery Road, Udaipur, Rajasthan (bilingual).
2. Pandey S.K. (2012). Quick Concept of Botany. Publisher LAP LAMBERT Academic Publishing GmbH & Co. KG, Germany (ISBN: 978-3-8484-3104-5).
3. Dubey, R. C. and Maheshwari. D.K. 2012. Practical Microbiology, S. Chand & Company, Pvt. Ltd., New Delhi.
4. Pandey. B.P. 2014 Modern Practical Botany, (Vol-I) S. Chand and Company Pvt. Ltd., New Delhi.

Online Resources–

- e-Resources / e-books and e-learning portals
- www.swayam.ac.in
- www.ignou.ac.in
- www.egyankosh.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
- 1. <https://community.plantae.org/tags/moocfuturelearn.com/courses/teaching-biology-inspiring-students-with-plants-in-science>
- 2. <https://microbiologysociety.org/publication/education-outreach-resources/basic-practical-microbiology-a-manual.html>
- 3. <https://microbiologyonline.org/file/7926d7789d8a2f7b2075109f68c3175e.pdf>
- 4. <http://allaboutalgae.com/benefits/>
- 5. <https://repository.cimmyt.org/xmlui/bitstream/handle/10883/3219/64331.pdf>
- 6. <https://www.mooc-list.com/tags/microbiology/>
- 7. <http://www.agrifs.ir/sites/default/files/A%20text%20book%20of%20practical%20botany%201%20%7BAshok%20Bendre%7D%20%5B8>
- 8. <https://171339239%5D%20%281984%29.pdf>

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks

Continuous Internal Assessment (CIA): 15 Marks

End Semester Exam (ESE): 35 Marks

Continuous Internal Assessment (CIA): 15 (By Course Teacher)	Internal Test / Quiz-(2): 10 & 10	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks
	Assignment/Seminar + Attendance - 05 Total Marks - 15	
End Semester Exam (ESE): 35	Laboratory / Field Skill Performance: On spot Assessment	Managed by Course teacher as per lab. status
	A. Performed the Task based on lab. work - 20 Marks	
	B. Spotting based on tools & technology (written) – 10 Marks C. Viva-voce (based on principle/technology) - 05 Marks	

Name and Signature of Convener & Members of CBoS:

① R. Bhoor
② R. Bhoor
③ M. Anand
④ M. Anand
⑤ R. Bhoor
⑥ R. Bhoor
⑦ R. Bhoor
⑧ R. Bhoor
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⑩ R. Bhoor