M.Sc. BOTANY First Semester LOWER PLANT DIVERSITY-I (MSB - 101)

Duration: 3Hrs. Full Marks: 70

Part-A (Objective) =20 Part-B (Descriptive) =50

(PART-B: Descriptive)

Laration: 2 hrs. 40 mins. Marks: 50

Answer any five of the following questions:

- 1. Describe the process of sexual reproduction in fungi in detail. Draw suitable diagram and label them well. (10)
- 2. Illustrate the life cycle of *Penicillium* species with proper diagram. Describe it well. (10)
- 3. What is virus? What are the characteristics of virus? Discuss the multiplication of T_4 bacteriophage. (2+3+5=10)
- 4. What are bacteria? Discuss the ultrastructure of bacteria with suitable diagrams.

(2+8=10)

- 5. What is the difference between vertical and horizontal gene transfer? Write a note on sexual reproduction in bacteria. (2+8=10)
- 6. Describe the sexual reproduction of polysiphonia showing the formation of carposporophyte (Post fertilization changes) with diagrams. (10)
- 7. Discuss the role of pigments in the classification of algae with special reference to its different classes. (10)

8. What is the ecological significance of Lichens? Make a note on "Economic importance of Lichens". (2+8=10)

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Duration: 20 minutes

9. Amylum stars are found in:

a. Chara

c. Volvox

Marks - 20

		(PART	A- Objective Type)	
I. (Choose the correct answer	Mosjil0 to t Massi sayT	1×12=12	
1.	Ascospore is produced dura. Sexual c. Asexual	ing which me b. Vegetativ d. None		
2.	Plectenchyma is a a. Tissue found in pteridop c. False tissue found in fun		b. A structure found in bryophytes d. All of the above	
3.	Equivalent of basidia is a. Teleutospore of <i>Puccinia</i> c. Both	а	b. Uredospore spore of <i>Puccinia</i> d. None	
4.	Oidia is a a. Asexual spore c. Vegetative	b. Sexual spore d. None		
5.	Who is regarded as 'Father a. Fritsch c. Linnaeus	ather of modern algology of India'? b. M.O.P Iyenger d. H.D Kumar		
6.	Red rust disease is caused a. Oedogonium c. Cephaleuros	ed by- b. Scenedemus d. Polysiphonia		
7.	Red snow ball in Alpine re a. Nostoc c. Hematococcus	b. Cosmerium d. Microcystis		
8.	The algae grows in the bott a. Benthophytes c. Cryophytes	om of the res b. Epiphytes d. None of t		

b. Vaucheriad. Polysiphonia

10.Usnea is- a. Foliose Lichen c. Crustose Lichen					
	dwellers with xerophytic a b. Saxicolous d. Corticolous	adaptation are called			
12.In Lichens sexual rep a. Algae c. Both A & B	roduction is carried out by b. Fungi d. None				
II. Fill in the blanks:		1×8=8			
1. The chemical nature	of prion is	. The PrP ^{sc} form is formed due to			
modification of α-hel	modification of α-helix of PrP ^c into sheet.				
2. n-acetylmuramic acid	is more in gram	bacteria.			
3	is photolithoautotrophi	c bacteria.			
5. 16S rDNA gene is us	5. 16S rDNA gene is used for molecular characterization of				
5. The core or spore pro	5. The core or spore protoplast of bacterial endospores contains abundant				
6. The bacteria with no	6. The bacteria with no flagella are called				
7. The Cro protein prom	notes	_ cycle of λ bacteriophage.			
8. The lambda repressor	protein is encoded by	gene.			
