Course: BSc (H) Botany
Semester: I
Paper: Microbiology and Phycology (DSE) TH
Name of the Teacher: Dr. Priyanka Verma

Topic	**Reference**	**Approximate (schedule)**
Unit 1 Introduction to microbial world.	1. Kumar, H.D. (1999). Introductory Phycology, 2nd edition. New Delhi, Delhi: Affiliated East-West Press. (Chapter 1, 2 for Unit 5; Chapter 3 for Unit 6; Chapter 12 for Unit 8,9; Chapter 10 for Unit 9; Chapter 11 for Unit 10; Chapter 3 for Unit 11; Chapter 14 for Unit 12). 2. Lee, R.E. (2008). Phycology, 4th edition. Cambridge, Cambridge: Cambridge University Press, (Chapter 2 for Unit 6; Chapter 4 for Unit 11; Chapter 5 for Unit 8; Chapter 19 for Unit 9; Chapter 21 for Unit 10; Chapter 23 for Unit 12) 3. Pelczar, M.J. (2001). Microbiology, 5th edition. New Delhi, Delhi: Tata McGraw-Hill Co. (Chapter 1 for Unit 1;) 4. Talaro, KP, Talaro A. 2006. Foundations in Microbiology. New Delhi,Delhi: McGraw-Hill (Chapter 4 for Unit 3; Chapter 6 for Unit 2)	**November 21-March 22**
Unit 2 Viruses: Discovery, physiochemical and biological characteristics;classification (Baltimore)General structure with special reference to viroids and prions, General account of replication, DNA virus (T-phage), lytic and lysogenic cycle; RNA virus (TMV). Viral diseases		
Unit 3 Bacteria (8 lectures): Discovery, general characteristics, types-archaebacteria, eubacteria, wall less forms(mycoplasma and spheroplasts), Cell structure, nutritional types, Reproduction vegetative, asexual and recombination (conjugation, transformation and transduction), Bacterial diseases		
Unit 4 Applied Microbiology (4 lectures): Economic importance of viruses with reference to vaccine production, role in research, medicine and diagnostics, and as causal organisms of plant diseases. Economic importance of bacteria with reference to their role in agriculture and industry (fermentation and medicine).		
Unit 11 Rhodophyta (6 lectures): General characteristics, occurrence, range of thallus organization, cell structure and reproduction. Morphology and life-cycle of Polysiphonia		
Unit 12: Applied Phycology (4 lectures): Role of algae in the environment, agriculture, biotechnology and industry.		