

LS 628— GENERAL AND APPLIED MICROBIOLOGY

Serial Number	Topics
1.	Microbial diversity: Prokaryotic and Eukaryotic organisms
2.	Microbial nutrition, growth kinetics and control. Antibiotics and antimicrobial resistance
3.	General functions and properties of the immune system
4.	Host-microbe interactions. Transporters in microbes
5.	Microbiology of food, products of industrial microbiology
6.	Introduction to microbial diseases, e.g., bacterial, viral, fungal and protozoan (respiratory tract infections, gastrointestinal tract infections, sexually transmitted diseases, infections in the compromised host)
7.	Microbial degradation/detoxification of waste
8.	Bio-terrorism and Bio-weapons
9.	Use of nanotechnology in medical microbiology for diagnosis, treatment of infectious diseases etc.
10.	Bioinformatics, proteomics and genomics and its use in vaccine development of infectious disease and emerging infections.

Suggested Reading:

1. Microbiology, J.G. Cappuccino, N. Sherman, Pearson Education Publications
2. Microbiology: A Human Perspective, E.W. Nester, D.G. Anderson, C.E. Roberts, N.N. Pearsall, M. T. Nester Mc Graw Hill Higher Education
3. Manual of Environmental Microbiology, C. J. Hurst, R.L.Crawford, G.R.Knudsen, M.J. McInerney, L.D. Stetzenbach,, ASM Press.
4. Microbiology, L.M. Prescott, J. P. Harley, D.A., Klein, Mc Graw Hill International Edition
5. Microbial functional genomics, J.Zhou, D.K.Thompson, J.M.Tiedje, Wiley Liss
6. Molecular Microbial Microbiology: diagnostic principles and practice by D.H.Persing, F.C. Tenover, J.versalovic, Y.W. Tang, E.R. Ungen, D.A. relman, T.J. White Publishers: ASM press