	9. Bar-Cohen, Y. (2006). Biomemetics. 10. Naik, M., Dubey, S. (2017). Marine pollution and microbial bioremediation. 11. Flemming, H.-C., Murthy, P.S., Venkatesan, R., Cooksey, K.E. (2009). Marine and Industrial Biofouling. 12. Liengen, T., Basséguy, R., Féron, D., Beech, I.B. (2015). Understanding Biocorrosion. 13. Okaichi, T. (2003). Red Tides. 14. Pillay, T. V. R. (2001). Aquaculture. 15. Swain (2006). Fish and Shellfish Immunology. 16. Farch, D. (2015). Diseases of fish. 17. Evans et al. (2000). Environmental Biotechnology-Theory and Application. 18. Evams, G et al. (2003). Environmental Biotechnology.	

Programme:M.sc. Mrine Biotechnology
Course Code: MBC 282
Title of the course: POTENTIAL OF MARINE BIOTECHNOLOGY
Number of Credits: 2
Effective from 2019-2020

Course Objectives	The objective of this course is to impart knowledge of biotechnological applications of marine organisms, important processes and impacts on the marine ecosystems and ways to control them.	
Learning Outcomes	On completion of the course, students should be able to comprehend the uses of marine organisms, their significances, interactions, impacts and management technologies to come-up with solutions for their control.	
Content	**MODULE I** **Applications of Marine Organisms** • Marine viruses and Giruses • Giant bacteria and their significance • Unculturable bacteria : occurrence ,characteristics and exploitation • Barophilic organisms & their applications • Seaweeds for removal of metal pollutants • GFP, RFP characteristics and their applications • Green mussel adhesive protein • Chitosan : products and applications • Biomimetics **MODULE II** **Management** • Marine pollution • Biofouling and corrosion • Ballast water • Red tides • Bacterial & viral pathogens in aquaculture • Aquaculture diseases in finfish and shellfish	12 hours 12 hours
References/ Reading	1. Le Gal, Y., Ulber, R., & Antranikian, G. (2005). Marine Biotechnology (Vol. 96). 2. Munn, C. (2011). Marine microbiology: Ecology & applications. 3. Osborn, M. (2005). Molecular microbial ecology. 4. Rainey, F., Oren, A. (2006). Extremophiles, Volume 35, 1st Edition. 5. Nabti, E. (2017). Biotechnological Applications of Seaweeds. 6. Day, R., Davidson, M. (2014). The Fluorescent Protein Revolution. 7. Hicks, B. (2002). Green Fluorescent Protein. 8. Ahmed, S., Ikram, S. (2017). Chitosan.	