Programme: M. Sc. (Marine Sciences)
Course Code: MSC 464 Title of the Course: Estuarine and Coastal Geology
Number of Credits: 01
Effective from AY: June2018-19

Prerequisites for the course:	Fundamental courses in all the branches of Marine Sciences of this University or any other University recognized as equivalent and courses defined in semester III.	
Objective:	This course introduces estuarine and coastal Geology with respect to sub-divisions, morphological units and processes including sediment distribution and depositional environments.	
Content:	Estuaries: Classification based on tide - geological classification and evolution – sub-environments in estuaries: mudflats, salt marsh, mangrove, salt pans - sediment source, transportation and deposition – bed and suspended sediment sampling and analysis –mineralogy and geochemistry of estuarine sediments. Coasts: classification, types of coast with reference to Indian coast line – evolution of the Indian coast - global sea level changes: eustatic, tectonic and isostatic. Coastal signature of sea level changes.	12 hours
Pedagogy:	Lectures / Assignments / Seminars / Discussion	
References/ Readings	1. Estuarine chemistry, 1976 Burton, J. D. and Liss, P. S., Academic Press, New York and London. 2. Practical estuarine chemistry, 1985 Head, P. C., Cambridge: Cambridge University Press Wiley Chichester. 3. Chemical oceanography (Vol.7), 1978 Riley, J. P. and Chester, R., Academ- ic Press, London. 4. Waves, tides and shallow-water processes, 1991 The Open University. 5. Coastal and estuarine sediment dynamics, 1986 Dyer, K. R., John Wiley & Sons. 6. Estuarine hydrography and sedimentation, 1986 Dyer, K. R., John Wiley & Sons. 7. Beach processes and sedimentation, 1976 Komar, P. D., Prentice Hall. 8. Sea-level rise and coastal subsidence: causes, consequences and strategies, 1966 Milliman, J.D. and Haq, B. U.,Kluwer Academic. 9. Introduction to geochemistry, 1967 Krauskopf, K. B., McGraw-Hill. 10. Elements of ecology (3rd edition), 1982 Tait, R. V., Springer. 11. An introduction to Marine Sciences, 1988 Meadows, P. S. and Campbell, J. J., Campbell BSc, FRES. 12. Textbook of Marine Ecology, 1989 Nair, N. B. and Thampy, D. M.The Open Universit Butterworth.	
Learning Outcomes	1. Understanding Geology of estuarine and coastal sedimentary environments, processes and evolution. 2. Ability to understand and reconstruct estuarine and coastal environments	