

**Name of the Programme:**M. Sc.Marine Sciences

**Course Code:** MSC 507

**Title of the Course:** Marine Geology Practical

**Number of Credits:** 01

**Effective from AY:**2022-23

<b>Prerequisites for the course:</b>	Degree of Bachelor of Science of this University or an examination of any other university recognized as equivalent.	
<b>Objective:</b>	To introduce techniques to measure parameters to understand near-shore and beach dynamics, bathymetry and heavy minerals.	
<b>Content:</b>	Field survey (Beach) - locating a station using compass and GPS; Beach profile measurement and sediment sample collection from different parts of the beach (4 hours; Reference 2) Plotting station locations on the base map and beach profile; volume computation from the given data (2 hours; Reference 2) Conning and quartering, pre-treatment of sediment sample to remove calcium carbonate, organic matter and ferruginous material (2 hours; References 1, 6) Grain size analysis (sand) using Ro-tap sieve shaker – batch I (8 hours; References 1, 6) Computation of weight and cumulative percentages, plotting frequency and probability graphs, computation of modes of transport and grain size parameters and interpretation (4 hours; References 1, 6) Heavy mineral separation from different fractions of sand and interpretation (4 hours; Reference 1) Plot bathymetry lines and interpret geomorphology (4 hours; Reference 4) Identification of microfossils under binocular microscope & its applications in paleoclimate. (2 hours; Reference 6)	30 hrs.
<b>Pedagogy:</b>	Field surveys and sampling / Laboratory experiments / Computations / Plotting and interpretations	
<b>References/ Readings:</b>	1.Friedman, G. M., & Johnson, K. G. (1982). Exercises in sedimentology. New York: Wiley. 2.Dionne, J.C. (1978). Komar, P.D. (1976). Beach Processes and Sedimentation, Englewood Cliffs (New Jersey), Prentice-Hall. 3.Krone, R. B., (1962). Flume studies of the transport of sediment in estuarial shoaling processes: Final report. Berkeley: Hydraulic Engineering Laboratory and Sanitary Engineering Research Laboratory, University of California. 4.Babu, S. K. & Sinha, D. K. (1987): Sedimentary Petrology Practical, CBS Pub., N. Delhi. 5.Mero, J. L. (1965). The mineral resources of the sea. Amsterdam: Elsevier Pub. Co. 6.Saraswati, P. K., & Srinivasan, M. S. (2015). Micropaleontology: Principles and applications. 7.Jones, E J. W. Marine Geophysics. Chichester: Wiley, 1999. Print.	
<b>Course Outcome:</b>	1.Conducting field surveys, sampling and laboratory experiments to understand geological processes.	