Name of Programme: M. Sc. Applied Geology
Course Code: GEO-511
Title of the Course: Practical of Sedimentology
No of Credits: 01
Effective from AY: 2022-23

Prerequisites for the course:	Degree of Bachelor of Science in Geology from any UGC recognized University or an equivalent examination.	
Objective:	To assess the grain size and grain size parameters by different methods. To identify and characterize sedimentary rocks at mega and microscopic scales. To study sedimentary textures, structures, and paleocurrent methods for environmental reconstructions.	
Content:	**Module 1:** Granulometric analysis: Textural analyses of sediments, plotting of grain size data and statistical analyses and interpretation. **Module 2:** Palaeocurrent analysis: Exercises using sets of directional data to understand spatial variation in vectorial data. **Module 3:** Study of hand specimens: Megascopic identification of sedimentary rocks, observation of texture, structure and diagenetic changes; inferences on depositional environment. **Module 4:** Study of thin sections: Microscopic identification of sedimentary rocks, observation of texture, mineralogy and diagenetic changes. **Module 5:** Heavy mineral analysis.	30 hours
Pedagogy:	Lectures, problem solving, hands on experience in megascopic and microscopic identification of rocks and discussions.	
References/ Readings	1. Lindholm, R. (1987). *A practical approach to sedimentology*. Springer Science and Business Media. 2. Prothero, D.R. and Schwab, F. (2013). *Sedimentary Geology: An Introduction to Sedimentary Rocks and Stratigraphy.* W.H. Freeman, 3rd Edition. 3. Selley, R. C. (2000). *Applied sedimentology*. Elsevier. 2nd Edition. 4. Tucker, M. E. (2001). *Sedimentary petrology: an introduction to the origin of sedimentary rocks*. John Wiley and Sons. 3rd Edition. 5. Boggs, S. (2006). *Principles of sedimentology and stratigraphy.* Pearson Prentice Hall. 4th Edition. 6. Boggs Jr, S., and Boggs, S. (2009). *Petrology of sedimentary rocks*. Cambridge University Press. 2nd Edition. 7. Tucker, M. E. (2011). *Sedimentary rocks in the field: a practical guide (Vol. 38).* John Wiley and Sons. 8. Adams, A. E., MacKenzie, W. S., and Guilford, C. (2017). *Atlas of sedimentary rocks under the microscope*. Routledge.	

Course outcomes	1. Thorough knowledge on textures and structures exhibited by sedimentary rocks. 2. Detail understanding of the sedimentary rocks. 3. Interpretation of sedimentary processes based on the composition of the rock and sedimentary structures.	