Course Type	Course Code	Name of Course	L	T	P	Credit
DE	NGLD504	Stratigraphy	3	0	0	3

Course Objective
The objective of the course is to introduce the student to the principles of stratigraphic correlation and Indian stratigraphy.
Learning Outcomes
Upon completion of the course, students will be able to: 1. Learn the fundamentals of stratigraphic correlation and about the Geologic Time Scale 2. Understand the different stratigraphic groups and formations of India 3. Learn about the significance of Indian Stratigraphy for understanding the evolution of continents

Unit No.	Topics to be Covered	Lecture Hours	Learning Outcome
1.	Principles of stratigraphic correlation. Stratigraphic code of nomenclature. Geologic Time Scale.	7	This unit will help the student in understanding the fundamentals and principles of stratigraphic correlation and comprehend geologic time scale.
2.	Precambrian belts of India (South India, Central India, Rajasthan, Eastern Ghat, Singhbhum- Orissa): Age correlations, metamorphism, tectonics and evolution. Archean-Proterozoic boundary problem in India. Concept of Precambrian supercontinents.	7	This unit will help the student in learning The tectonic and stratigraphic evolution of Precambrian terrains in India. .
3.	Important Proterozoic basins of Peninsular India: Sedimentation, correlation and evolution. Stratigraphic Boundary Status: Precambrian-Cambrian, Permo-Triassic, Cretaceous- Tertiary, Neogene-Quaternary.	7	This unit will help the student in learning the sedimentary history and evolution of Phanerozoic geological strata distributed in various parts of India.
4.	Phanerozoics of Extra Peninsula:Spiti, Kashmir and Salt Range. Stratigraphy, tectonics, and basin evolution of Gondwana sedimentary units; Intracontinental and intercontinental correlations between Gondwana successions.	7	This unit will help the student in understanding the evolution of Gondwana basins in India
5.	Evolution and stratigraphy of Indian Coastlines: Marine Mesozoics of coastal India viz. Cretaceous of Trichinopalli and Jurassic of Kutch. Traps: Deccan, Rajmahal, Sylhet and Rajahmundry Traps and their correlations.	7	This unit will help the student in understanding the Mesozoic stratigraphy and the development of coastlines in India.
6.	Tertiary formations of Kutch and Assam–Arakan geological provinces. Lithostratigraphy of different sedimentary cycles vis-à-vis major geologic and tectonic events of the Himalayas. Lithostratigraphy of Siwalik Sediments.	7	This unit will help the student to understand The Cenozoic stratigraphy and the geologic and tectonic processes that led to the evolution of the Himalayas.
	Total	**42**	

Text Books:

1. M.A. Murphy and A. Salvador, *International Stratigraphic Guide — An abridged version.* International Subcommission on Stratigraphic Classification of IUGS International Commission on Stratigraphy, Episodes, 1999, 255 – 272.
2. R. Vaidyanadhan and M. Ramakrishnan, *Geology of India*. Geological Society of India, Bangalore, 2010, Vol. 1 & 2, 997p.

Reference Books:

1. Ravindra Kumar. *Fundamentals of Historical Geology and Stratigraphy of India*. New Age International (P) Ltd. Publishers, New Delhi, 1996, 254p.
2. R.S. Sharma, Cratons and Fold Belts of India. Springer, 2009, 304p.