Course Type	Course Code	Name of Course	L	T	P	Credit
DC	GPC205	**Oceanography**	3	0	0	9

Course Objective
The primary objective of the course is to introduce fundamental aspects of ocean and its related changes. This course will emphasize the knowledge of compulsory ocean related study. The underlying physics of the various oceans related changes and its creation are presented through theory classes.
Learning Outcomes
Knowledge on history of Earth's development, plate tectonics, physical properties of ocean water, climate changes and its relations with ocean surface, naturally raised energy sources and ocean water pollution are the course goal of the subject.

Unit No.	Topics to be Covered	Lecture hours	Learning Outcome
1.	Introduction to Oceanography, Early history, Origin of the Earth, Development of oceans and basins - a general background.	7	Knowledge on history of the Earth's development.
2.	Introduction to the theory of plate tectonics, growth of ocean basins.	6	Fundamental knowledge on plate tectonic activity; classification of basins; development of ocean basin.
3.	Physical properties of ocean water. thermal properties, Solvent properties, Salinity of ocean water.	6	Knowledge on physical properties of ocean water.
4.	El Nino, Coriolis effect, heat budget, ocean water and climate, wave characteristics, sea sand, measures of the ocean surface. Thermo-Haline circulation.	7	Fundamental knowledge on climate changes related to ocean surface.
5.	Tsunami, Internal waves, Power from waves, tide generating forces, Equilibrium theory of tides, dynamic theory of tides, tides as a source of power.	8	Tsunami and tides as natural sources.
6.	Carbon uptake by ocean, anthropogenic perturbation. Marine pollution, non-living resources, Petroleum and mineral, desalination.	8	Marine pollution and recovery.
	Total Class	**42**	

Text Books

1. Pipkin B. W., Gorsline. D.S., Casey R.E., Hammond, D. E., 1987. Laboratory Exercises in Oceanography, 2nd Edition .
2. Thurman H. V., 1991. Introductory Oceanography, McMillan Publishing Co., New York.

Reference Books

1. Fowler, C.M.R., Solid Earth: An Introduction to Global Geophysics.
2. Howell B.F., An Introduction to Geophysics. Mc-Graw Hill.
3. Jacobs, J.A., A Text Book of Geonomy, Adam-Hilger.

4. Lowrie, W., Fundamentals of Geophysics, Cambridge University Press.
5. Tucker, R.H.; Cook, A.H.; Iyer, H.M. and Stacey, F.D., Global Geophysics, English Univ. Press.
6. Donald, L.; Turcotte & Gerald Schubert : Geodynamics (Second Edition).