

## HARD CORE COURSE: GYH 403: Advanced Oceanography

## **Course Learning Outcome:**

- CO1. Understand the fundamentals of oceanography and ocean floor.
- CO2. Evaluate ocean relief of submarine and chemical properties.
- CO3. To understand the movements and circulation of ocean water.
- CO4. To understand and evaluate ocean deposits and its impact of human on the marine environment.
- Unit 1: Scope and Content of Oceanography: Configuration of Ocean Floor-Continental Shelf, Slope, Ocean Plains and Ocean Deeps. -13

Unit2: Origin of Submarine: Relief-Submarine Relief of the Atlantic, the Pacific and the Indian Ocean. Physical and Chemical Properties of Ocean waters: Composition, Temperature and Salinity. -14

- Unit 3: Movements and Circulation of Ocean Water: Waves, Tides, Currents and their Effects. Coastal Ecology-Coastal Dunes and Mangroves. -13
- Unit 4: Ocean Deposits: Types and Distribution, Coral Reefs: Origin, Types and Theories of Origin of Coral Reefs (Darwin, Dally and Murray). Impact of Humans on the Marine Environment. Recent Trends in Oceanography. -14

## **References:**

- 1. Lal. D.S. (2003) Oceanography, Sharada Pustak Bhavan, Allahabad 02.
- 2. King Cuchalaine A.M. (2000) Oceanography for geographers, Edward Arnold publications, London.
- 3. Savindra Singh (2004): physical geography, Prayog Pustak Bhavan, Allahabad -02
- 4. Siddharth (2005) Oceanography: A brief introduction, Rawat Publishers. New Delhi.
- 5. Sharma RC (2000) Oceanography for Geographers, Chaitanya Publishers, Allahabad -02
- 6. Vattal and Sharma (2003), Oceanography for Geographers, Chaitanya Publishers, Allahabad -02
- 7. Yadav A.S. (2002): Geography of Minerals of Oceans, concept Publishers, New Delhi,
- 8. Basu S.K. (2003): Hand book of oceanography, Global vision, Delhi.
- 9. Garisson Tom (1999): Oceanography, Cole, Wadsworth, New York.
- 10. Sharma and Vattal (1962) Oceanography for Geographers, Chaitanya Publication House, Allahabad.
- 11. Turman Harold (1985); Introductory Oceanography, Bell & Howell Co. London.
- 12. http://drs.nio.org/drs/index.jsp