PREAMBLE

Earth's physical environment consists of the three spheres of land, air and water, i.e., Lithosphere, Atmosphere and Hydrosphere. These spheres not only co-exist, but are also closely inter-related. A complete understanding of earth's physical processes, therefore, needs knowledge of ocean processes. The course on oceanography completes the study of all spheres of earth as students have studied Geomorphology and Climatology in previous semesters. This course also aims at sensitizing students about the crisis of world climate change.

Programme: B.A.				**Semester: IV**	
Course: S.Y.B.A. GEO. II – OCEANOGRAPHY				**Course Code: BH.UAGEO401**	
Teaching Scheme				**Evaluation Scheme (Theory)**	
Lecture (Periods per week)	**Practical (Periods per week per batch)**	**Tutoriall (Periods per week per batch)**	**Credits (Theory +Practical)**	**Internal Continuous Assessment (ICA) (Marks - 40)**	**Semester End Examination (SEE) (Marks: 60)**
03	NIL	NIL	04	40	60

Pre-requisites:

Course Objectives:

1. To introduce students to the discipline of Oceanography, world oceans and oceanic processes

Course Outcomes:

1. Student knows the characteristics of world oceans
2. Student understands the Physical and chemical properties of ocean water
3. Students knows the movements of ocean water in form of waves, tides and currents
4. Student gets information of ocean pollution and role of oceans in climate change

Detailed Syllabus: (Per session plan)

Unit	Description	Periods
1	**Nature of Oceanography** Oceanography: meaning, definition, nature and scope, Branches of Oceanography: Physical, Chemical and Biological, Major oceans of the world and their characteristics. Secondary water bodies – Seas, Bays, Gulfs and Straits. Location of major Seas, Bays, Gulfs and straits of the world.	09
2	**Bottom Relief and Ocean Water** Ocean floor characteristics, Composition of ocean water, Factors affecting ocean water temperature, Vertical and Horizontal distribution of ocean temperature, Factors affecting salinity of ocean water, Vertical and Horizontal distribution of oceanic salinity	09
3	**Movements of Ocean Water**	09

	Waves-Formation and types, Tsunami and their effects on coast, Concept and types of Tides, Equilibrium theory of Tides, Ocean Currents- types and their effects.	
4	**Man and Oceans** El-Nino, La-Nina Phenomenon and their effects of world climate – Coral Reefs and Their Importance, degradation of coral reefs, – Marine Ecosystems – Marine Pollution – Oceans and Global Climate Change	09
5	**Practical Component** Map filling: marking marine features on the world map, Introduction to Navigational charts and Bathymetric maps.	09
	Total	**45**

Text Books:

1. Kamble, A. & Karmarkar, D. (2017): Oceanography, Tech-Max Publications, Pune.

Reference Books:

1) Bunnett, R. (1965): “Physical Geography in Diagrams”, Pearson Education, New Delhi.
2) Lal, D. (2009) : "Physical Geography", Sharada Pustak Bhavan, Allahabad.
3) Miththapala, S (2008). Coral Reefs. *Coastal Ecosystems Series* (Vol 1) pp 1-36 + iii. Colombo, Sri Lanka: Ecosystems and Livelihoods Group Asia, IUCN.
4) Sharma, R. and Vatal, M. (2005): “Oceanography for Geographers”, Chaitanya Publishing House, Allahabad
5) Singh, S. (2015): “Physical Geography”, Pravalika Publications, Allahabad.
6) Thomas, D. and Gaudie, A. (2000): “The Dictionary of Physical Geography”, (ed.) Blackwell Publishing, USA.
7) Trujillo, A. and Thurman, H. (2013): “Essentials of Oceanography”, Pearson India, Noida.