

## MGP 507: Physical Oceanography and surveying (Lab, Soft Core)

### MGH 501: Oceanography – I

**Skills, employability and entrepreneurship:** These are similar to the above mentioned ones (MGH 501) with an emphasis on the practical related to the physical oceanography and land survey. Students have chance to go on ocean expedition and exit with course have skills to work in organizations related to National Institute of Oceanography and sister departments, research institutes, Navy, geological survey, mining and ocean related R & D Labs. and educational institutions.

#### Physical Oceanography (Lab)

- 1) Representation of annual wave period percentage frequency of the given region
- 2) in the form of bar-diagram/histogram and its study.
- 3) Representation of wave direction data in the form of rose diagram and their study.
- 4) Interpretation of wave climate for the given data.
- 5) T-S diagrams
- 6) CSS diagram and study of waves.
- 7) Wave forecasting and Wave refraction study.
- 8) Observation and study of different wave breaker types.
- 9) Study of waves during rough and fair weather seasons.
- 10) Preparation and study of tidal curves (mean tidal range, spring and neap tidal range - for different months).
- 11) Calculation of velocity of sound using Nomograph.
- 12) Study of major surface current patterns of the Indian Ocean.
- 13) Study of major surface current patterns of the Atlantic Ocean
- 14) Study of major surface current patterns of the Pacific Ocean
- 15) Deep ocean circulation in the Atlantic Ocean.
- 16) Littoral drift study in the field and lab using dye and tracer techniques.
- 17) Interactive sessions of teaching to enhance students-teacher interactions through hands-on demonstrations and exercises in the recent advancement of the subject related to the curriculum.

#### Surveying (Lab)

- 1) Chain survey
- 2) Plane table survey
- 3) Leveling survey
- 4) Compass survey
- 5) Total station survey
- 6) Sextant
- 7) Interactive sessions of teaching to enhance students-teacher interactions through hands-on demonstrations and exercises in the recent advancement of the subject related to the curriculum.