SEMESTER 2nd

MINOR COURSE

DMG222N DISASTER MANAGEMENT (GEOPHYSICAL ENVIRONMENT)

CREDITS: THEORY 04, PRACTICAL 02

Course Outcome/Learning Objectives: *This course aims at providing an in-depth understanding of geo-physical Environment. It aims to focus on internal structure of earth, tectonics, landform evolution, Ocean bottom relief, and coastal geomorphology. It also deals with various aspects of earth's heat budget, climate and its controls and processes governing Cryosphere.*

THEORY (4 CREDITS)

UNIT-I

1. Structure of Earth
2. Types of Rocks
3. Plate Tectonics
4. Geological Structures: Folds and Faults

UNIT-II

1. Geomorphology: An Overview
2. Endogenetic and Exogenetic Processes
3. Major Landforms: Mountains, Plateaus and Plains
4. Configuration of Oceans and Continents

UNIT-III

1. Hydrosphere: an Overview
2. Ocean Bottom Topography
3. Ocean Currents and Tides
4. Sea Waves and Storm Surges

UNIT- IV

1. Weather and Climate: An Overview
2. Atmosphere: Structure and Composition
3. Insolation and Heat Budget of the Earth
4. Pressure Belts and Winds

PRACTICAL (2 CREDITS)

UNIT- V (Practical)

1. Interpretation of Weather Maps
2. Construction of Climograph
3. Construction of Hythergraph

UNIT- VI (Practical)

1. Flood Hazard Zonation
2. Vulnerability Mapping

SUGGESTED READINGS

1. Unstable Earth; Steers, J.A.
2. Principles of Engineering Geology by KM Bangar.
3. Physical Geology by GB Mahapatra.
4. Elements of Physical Geography; Strahler, A.H. & Strahler, A.H.
5. Principles of Geomorphology; Thornbury, W.D.
6. Hydrology: An Introduction; Wilfried Brutsaert, 2005.
7. General Climatology. A.K. Barua., Climatology, Dominant Publishers and Distributors, 2005.
8. Foundation of Climatology Stringer, E.T. Surjeet Publication, Delhi.