

MA Final(Geography)
Climatology and Oceanography

Paper-I

- Unit 1 Nature and scope of climatology and its relationship with meteorology. Composition, mass and structure of the atmosphere. Insolation heat balance of the earth, green house effect; vertical and horizontal distribution of temperature. Atmospheric motion: Forces controlling motion of air vertical motion and vorticity, local winds, jet stream, general circulation in the atmosphere; Atmospheric moisture: Humidity, Evaporation, Condensation, precipitation: formation, types acid rain world pattern of precipitation.
- Unit 2 Tropical, temperate and high latitude weather system- concept of air masses and atmospheric disturbances, ocean atmospheric interaction- El Nino, southern oscillation (ENSO) and LaNina. Monsoon winds, norwesters and cyclones Tropical Temperate phenomena. Climate of India and its controls: Western disturbances
- Unit 3 Climatic classification of KOPPEN and THORNTHWAITE, Major climates of the world climatic changes: Evidences, possible causes; global warming.
- Unit 4 Nature and scope of oceanography- History of oceanography; distribution of land and water; major features of ocean basins ; continental margin and deep- ocean basins; earth structure and plate tectonics; marine sediments.
- Unit 5 Physical and chemical properties of sea water; Interlink between Atmospheric circulation patterns in the ocean; Surface currents; thermohaline waves and tides. Ocean deposits; Coral Reefs. Marine biological environment: bio-zones, types of organisms. Plankton, Nekton and Benthos, food and mineral resources of the Sea

Books Recommended:

- Barry, R.G. and Chorley,P.J. 1998: Atmosphere. Weather Climate
Routledge,LondonandNew York.
- Peterson,s. 1969: Introduction to Meteorology, Mc Graw Hill Book, London.
- Davis Richard J.A. 1986: Oceanography- An Introduction to the Marine Enviornments,
Wm.C. Brown Iowa.
- King, C A.M. 1962: Oceanography for geographers.
- Ummerkutty, A.N.P 1985 : Science of the oceans and Human Life. NBT, N-Delhi.