Geography

Unit – I: Geomorphology, Biogeography & Soil Geography

1. Origin and Internal Structure of the Earth, Isostasy, Mountain Building
2. Continental Drift, Ocean Floor Spreading, Plate Tectonics.
3. Earthquake, Volcanism: Cause, effect & distribution.
4. Rocks and Minerals, Structure (Fold & Fault) and Landforms
5. Weathering, Mass Wasting, Cycle of Erosion (Davis, Penck)
6. Landforms produced by running water, Groundwater, Wind, Wave & Glacier
7. Environment & Ecosystem, Structure & Function of Eco-system, Food Chain and Food Web, Energy Flow
8. Concept of Biome, Classification and World Distribution of Biomes
9. Environmental Degradation & Pollution, Man& environment
10. Soil forming processes, Soil Profile, Classification & Distribution of Soils.

Unit – II: Climatology and Oceanography

1. Composition and Structure of atmosphere, Elements and Factors of Climate
2. Insolation & Temperature, vertical & horizontal distribution of Temperature
3. Pressure Belts, Planetary, Periodic and Local winds, Upper Air Circulation, Jet Stream
4. Hydrological Cycle, Humidity, Forms of Condensation
5. Types of Precipitation, Formation of Precipitation
6. Air Mass: Types, Origin, Classification and Modification
7. Atmospheric disturbances, Tropical and temperate Cyclones
8. Classification of World Climate (Koppen and Thornthwaite)
9. Global Warming, Ozone Depletion and Climate Change
10. Bottom relief of Oceans: Pacific, Atlantic and Indian
11. Temperature and Salinity of the Ocean Water
12. Waves &Tides, Currents of Pacific, Atlantic and Indian Ocean
13. Coral Reefs: Types and origin, Ocean Deposits.

Unit – III: Human and Economic Geography

1. Races of Mankind, Cultural Realms of the World
2. Population Distribution, Growth, Demographic Structure of Population
3. Fertility, Mortality and Migration, Trend of Urbanization
4. Evolution of Settlements, Types and Pattern of Rural and Urban Settlements, Functional Classification of Towns
5. Resources: Meaning, Classification, Conservation and Management
6. Agriculture: its types, Agricultural location theory of Von-thunen
7. Industrial location theory by Weber and Smith
8. Concept of Region, Delimitation of Regions
9. Central Place Theory of Christaller
10. Regional Planning in India, Micro & Multilevel Planning, Rural Development, Growth Pole & Growth Centre approaches
11. Concept of Nation and State, Frontiers, Boundaries & Buffer Zone
12. Concept of Heartland and Rimland
13. Contribution of Humboldt, Ritter, Ratzel & Vidal dela Blache to Geography

Unit-IV: Regional Geography of India & Odisha

1. Physiographic Divisions and Relief, River system
2. Climate, Climatic regions, Mechanism of Indian Monsoon
3. Soils: Types and Distribution
4. Natural Vegetation, its Classification and distribution
5. Population: Structure and Composition, Population growth, density, distribution
6. Settlements: Rural and Urban, Classification of Towns
7. Mode of occurrence and distribution of Iron Ore, Bauxite, Coal and Petroleum
8. Non-Conventional Sources of Energy: Wind, Solar, Geothermal, Biogas
9. Agriculture and its types, Crops and Cropping Pattern, Agricultural Regions
10. Location and Distribution of Iron and Steel Industry, Aluminium and
11. Cotton Textile Industry, Industrial Regions
12. Transport System: Road, Rail, Air and Water transport.

Unit - V: Applied Geography

1. Cartography: Cartographic techniques in Geography, Map design& Layout
2. Types of Maps, Types of Diagrams: Bars, Circles, Spheres
3. Map Scale: RF, Statement and Graphical
4. Choropleth, Isopleth, Isochrone Maps, Use of Symbols in Map Making
5. Concept of Spheroid & Geoid, Map Projection: Types, Properties, use
6. Concept of Geographical Co-ordinates: Latitude, Longitude, Parallels and Meridians, International Date Line, Standard Time & Local Time
7. Socio-Economic Survey, Questionnaire, Schedule
8. Interpretation of Toposheets, Weather Maps & Geological Maps
9. Use of Statistical Methods in Geography: Measures of Central Tendencies,
10. Measures of Dispersion, Correlation and Regression
11. Geographical Information System: Concept & Components
12. Aerial Photography and Remote Sensing techniques in Geography.