Syllabus for the Post of PGT **Geography**

Geography as a Discipline

- Geography as an integrating discipline, as a science of spatial attributes
- Branches of Geography: Physical Geography and Human Geography

The Earth

- Origin and evolution of the earth
- Interior of the earth; Earthquakes and volcanoes: causes, types and effects
- Distribution of oceans and continents: Wegener's continental drift theory and plate tectonics

Landforms

- Geomorphic processes: weathering; mass wasting; erosion and deposition; soil-formation
- Landforms and their evolution- Brief erosional and depositional features

Climate

- Atmosphere- composition and structure; elements of weather and climate
- Solar Radiation-Insolation-angle of incidence and distribution; heat budget of the earth- heating and cooling of atmosphere (conduction, convection, terrestrial radiation and advection); temperature-factors controlling temperature; distribution of temperature- horizontal and vertical; inversion of temperature
- Atmospheric circulation and weather systems - Pressure-pressure belts; winds-planetary, seasonal and local; air masses and fronts; tropical and extra tropical cyclones
- Water in the atmosphere-Precipitation- evaporation; condensation-dew, frost, fog, mist and cloud; rainfall-types and world distribution
- World Climate and Global Concerns

Water (Oceans)

- Basics of Oceanography
- Oceans - distribution of temperature and salinity
- Movements of ocean water-waves, tides and currents; submarine reliefs

Life on the Earth

- Biosphere - importance of plants and other organisms; biodiversity and conservation

India-Physical Environment

- India: Location, space relations, India's place in the world

Physiography

- Structure and Relief; Physiographic Divisions
- Drainage systems: Concept of river basins, watershed; the Himalayan and the Peninsular rivers

Climate, Vegetation and Soil

- Weather and climate - spatial and temporal distribution of temperature, Indian monsoon: mechanism, onset and withdrawal
- Natural vegetation-forest types and distribution; wild life: conservation; biosphere reserves

Hazards and Disasters: Causes, Consequences and Management

- Floods, Cloudbursts
- Droughts: types and impact
- Earthquakes and Tsunami; Cyclones: features and impact
- Landslides

Fundamentals of Maps

- Geo spatial data, Concept of Geographical data matrix; Point, line, area data
- Maps - types; scales-types; construction of simple linear scale, measuring distance; finding direction and use of symbols
- Map projection- Latitude, longitude and time, typology, construction and properties of projection: Conical with one standard parallel and Mercator's projection

Topographic and Weather Maps

- Study of topographic maps (1 : 50,000 or 1 : 25,000 Survey of India maps): contour cross section and identification of landforms-slopes, hills, valleys, waterfall, cliffs; distribution of settlements
- Satellite imageries, stages in remote sensing data- acquisition, platform and sensors and data products, (photographic and digital)

People

- The World Population- distribution, density and growth
- Population change - Components of population change, Demographic Transition
- Human development-concept; selected indicators, international comparisons
- Population: distribution, density and growth; composition of population - linguistic, religious; sex, rural-urban and occupational-regional variations in growth of population

Human Activities

- Primary activities - concept and changing trends; gathering, pastoral, mining, subsistence agriculture, modern agriculture; people engaged in agricultural and allied activities - some examples from selected countries
- Secondary activities- concept; manufacturing: types - household, small scale, large scale; agro based and mineral based industries
- Tertiary activities - concept; trade, transport and tourism; services; people engaged in tertiary activities
- Quaternary activities- concept; people engaged in quaternary activities - case study from selected countries

Human Settlements

- Rural settlements - types and distribution
- Urban settlements - types, distribution and functional classification

Transport, Communication and Trade

- Land transport - roads, railways; trans- continental railways;
- Water transport- inland waterways; major ocean routes
- Air transport- Intercontinental air routes; Oil and gas pipelines
- Satellite communication and cyber space- importance and usage for geographical information; use of GPS
- International trade- bases and changing patterns; ports as gateways of international trade; role of WTO in international trade

Resources and Development

- Land resources- general land use; agricultural land use; geographical conditions and distribution of major crops (Wheat, Rice, Tea, Coffee, Cotton, Jute, Sugarcane and Rubber); agricultural development and problems
- Water resources-availability and utilization- irrigation, domestic, industrial and other uses; scarcity of water and conservation methods-rain water harvesting and watershed management
- Mineral and energy resources- distribution of metallic (Iron ore, Copper, Bauxite, Manganese); non-metallic (Mica, Salt) minerals; conventional (Coal, Petroleum, Natural gas and Hydroelectricity) and non-conventional energy sources (solar, wind, biogas) and conservation
- Planning in India- target group area planning (case study); idea of sustainable development (case study)

Transport, Communication and International Trade

- Transport and communication-roads, railways, waterways and airways; oil and gas pipelines; Geographical information and communication networks
- International trade- changing pattern of India's foreign trade; sea ports and their hinterland and airports

Geographical Perspective on Selected Issues and Problems

- Environmental pollution; urban-waste disposal
- Urbanization, rural-urban migration; problems of slums
- Land degradation