Course outcome for UG Geography (CBCS) syllabus under University of North Bengal

- **Course Outcome for GEO-H-DSC-1-01-TH (Geotectonic):** Understand Earth's tectonic evolution, plate boundaries, and natural phenomena like earthquakes and volcanoes.

- **Course Outcome for GEO-H-DSC-1-01-PR (Practicals):** Apply cartographic techniques and prepare project file demonstrating practical skills.

- **Course Outcome for GEO-H-DSC-1-02-TH (Geomorphology):** Analyze erosional and depositional landforms, understanding slope processes.

- **Course Outcome for GEO-H-DSC-1-02-PR (Practicals):** Interpret topographical maps, identify rocks and minerals.

- **Course Outcome for GEO-H-DSC-2-03-H (Human Geography):** Explore human-environment interactions, population dynamics, and resource relationships.

- **Course Outcome for GEO-H-DSC-2-03-PR (Practicals):** Present data effectively and use thematic mapping techniques.

- **Course Outcome for GEO-H-DSC-2-04-TH (Settlement Geography):** Comprehend rural and urban settlement growth, and urbanization patterns.

- **Course Outcome for GEO-H-DSC-2-04-PR (Practicals**): Apply surveying techniques and create thematic maps.

- **Course Outcome for GEO-H-DSC-3-05-TH (Climatology):** Understand atmospheric processes, climatic regions, and cyclones.

- **Course Outcome for GEO-H-DSC-3-05-PR (Practicals):** Handle meteorological instruments and interpret climatic data.

- **Course Outcome for GEO-H-DSC-3-06-TH (Statistical Methods in Geography):** Use statistics effectively for geographical data analysis.

- **Course Outcome for GEO-H-DSC-3-06-PR (Practicals):** Apply descriptive statistics and analyze correlations in geographical data.

- **Course Outcome for GEO-H-DSC-3-07-TH (Geography of India):** Analyze India's physical, economic, and social geography, and understand regionalization using specific criteria.

- **Course Outcome for GEO-H-DSC-3-07-PR (Practicals):** Interpret temperature and rainfall graphs of selected Indian stations, and calculate population growth rates and measures of inequality for demographic analysis.

- **Course Outcome for GEO-SEC-A-3-01-TH (Remote Sensing):** Gain expertise in remote sensing techniques, satellite image processing, interpretation, and applications, enhancing job opportunities in various fields related to geospatial technology and environmental monitoring.

- **Course Outcome for GEO-SEC-A-3-01-TH (Rural Development):** Acquire a comprehensive understanding of rural development concepts, paradigms, area-based and target group approaches, and rural governance, preparing students for diverse job opportunities in rural development organizations, government agencies, and NGOs, contributing to sustainable development in rural areas.

- **Course Outcome for GEO-H-DSC-4-08-TH (Economic Geography):** Develop a comprehensive understanding of economic activities, their location factors, primary activities (agriculture, forestry, fishing, and mining), secondary activities (manufacturing, special economic zones, and technology parks), and tertiary activities (transport, trade, and services), preparing students for careers in economic analysis, regional planning, and industrial development.

- **Course Outcome for GEO-H-DSC-4-08-PR (Practicals):** Acquire practical skills in transport network analysis, state-wise occupational structure representation using proportional circles, and work participation rate representation, enhancing data visualization and analytical abilities for economic and regional planning applications.

- **Course Outcome for GEO-H-DSC-4-09-TH (Regional Planning and Development):** Gain in-depth knowledge of regional planning concepts, types of planning regions, and the process of regionalization for effective planning. Understand various theories and models for regional development, including Growth Pole Model and Growth Centre Model.

- **Course Outcome for GEO-H-DSC-4-09-PR (Practicals):** Acquire practical skills in delineating formal and functional regions using weighted index and breaking point analysis methods, and measuring

regional inequality and disparity using Location Quotient and Sopher Index, enhancing analytical abilities for regional planning and development assessment.

- **Course Outcome for GEO-H-DSC-4-10-TH (Field Work and Research Methodology**): Understand the role of fieldwork, select appropriate techniques for data collection, and define research problems and objectives.

- **Course Outcome for GEO-H-DSC-4-10-PR (Practical - Field Survey):** Gain hands-on experience in field tools, design field reports, and develop practical skills in data collection and report writing.

- **Course Outcome for GEO-SEC-A-4-02-TH (Geographical Information System - GIS):** Acquire practical skills in GIS data analysis, including input, geo-referencing, editing, output, and querying, as well as the application of GIS for tasks such as land use mapping, urban sprawl analysis, and forests monitoring, enhancing job opportunities in geospatial technology, urban planning, and environmental monitoring.

- **Course Outcome for GEO-SEC-A-4-02-TH (Tourism Management):** Comprehensive understanding of tourism concepts, types, recent trends, and case studies in diverse regions, preparing students for careers in tourism management, hospitality industry, and travel planning, supported by India's National Tourism Policy.

- **Course Outcome for GEO-H-DSC-5-11-TH (Environmental Geography):** Understand environmental concepts, human-environment relationships, ecosystems, and global, national, and regional environmental programs and policies.

- **Course Outcome for GEO-H-DSC-5-11-PR (Practicals):** Develop practical skills in creating questionnaires for environmental perception surveys and conducting a project on environmental issues in North Bengal, enhancing research and data analysis abilities.

- **Course Outcome for GEO-H-DSC-5-12-TH (Remote Sensing and GIS):** Understand remote sensing and GIS concepts, aerial photography, satellite remote sensing, and GIS data structures. Apply remote sensing and GIS for land use analysis, urban sprawl assessment, and forests monitoring.

- **Course Outcome for GEO-H-DSC-5-12-PR (Practicals):** Gain practical skills in air photo and satellite imagery interpretation, image processing, classification, Georeferencing, and GIS overlays. Enhance data analysis and visualization abilities for remote sensing and GIS applications.

- **Course Outcome for GEO-H-DSE-5-01-TH (Population Geography - Theory):** Understand population geography, data sources in India, population size, distribution, growth determinants, fertility, mortality, migration, and population composition. Address contemporary issues like aging population, sex ratio, and HIV/AIDS.

- **Course Outcome for GEO-H-DSE-5-01-PR (Population Geography - Practical):** Gain practical skills in population projection, population density mapping, work participation rate analysis, and occupation structure analysis. Enhance data analysis and visualization abilities for population-related research and planning.

- **Course Outcome for GEO-H-DSE-5-01-TH (Resource Geography - Theory):** Understand the concept, classification, and techniques related to natural resources. Analyze the distribution,

utilization, problems, and management of land resources, water resources, forests, and energy resources.

- **Course Outcome for GEO-H-DSE-5-01-PR (Resource Geography - Practical):** Acquire practical skills in mapping land use/land cover, and compute the Human Development Index for comparative decadal change of the top five Indian states. Enhance data analysis and visualization abilities for resource-related research and analysis.

- **Course Outcome for GEO-H-DSE-5-02-TH (Urban Geography - Theory):** Understand urban geography, patterns of urbanization, functional classification of cities, and address urban issues and case studies in North Bengal, preparing for careers in urban planning and development.

- **Course Outcome for GEO-H-DSE-5-02-PR (Urban Geography - Practical):** Acquire practical skills in analyzing urban settlement hierarchy and state-wise urbanization trends using Census data. Enhance data analysis abilities for urban geography research and development studies.

- **Course Outcome for GEO-H-DSE-5-02-TH (Agricultural Geography - Theory):** Understand agricultural geography, including land use/land cover classification, determinants of agriculture (physical, technological, and institutional), agricultural regions of India (agro-climatic, agro-ecological, and crop combination regions), agricultural systems worldwide (Whittlesey's classification), and agricultural revolutions in India (Green, White, Blue, Pink).

- **Course Outcome for GEO-H-DSE-5-02-PR (Agricultural Geography - Practical):** Acquire practical skills in measuring agricultural efficiency using Bhatia and Martin-Gibbs methods and

cropping intensity using ICAR method. Enhance data analysis abilities for agricultural geography research and analysis.

Course Outcome for GEO-H-DSC-6-13-TH (Evolution of Geographical Thoughts - Theory): Understand the development of geographical thought, from pre-modern origins to modern trends in Germany, France, Britain, and the USA. Analyze debates such as Environmental Determinism and Possibilism, Systematic and Regional approaches, and explore trends like the Quantitative Revolution, Behaviouralism, Feminism and the shift towards Postmodernism.

Course Outcome for GEO-H-DSC-6-13-PR (Evolution of Geographical Thoughts - Practical): Acquire practical skills in using quantitative techniques in Geography, including Chi-square, standard score, and ranking coefficient by Kendall. Study crop combination methods by Weber, Rafiulla, and DoI, enhancing data analysis abilities for geographical research and analysis.

Course Outcome for GEO-H-DSC-6-14-TH (Disaster Management - Theory): Understand hazards, disasters, risk assessment, and consequences of earthquakes, landslides, floods, riverbank erosion, and human-induced disasters. Prepare for careers in disaster management and emergency response.

Course Outcome for GEO-H-DSC-6-14-PR (Disaster Management - Practical): Gain practical experience by preparing a project report on a disaster case study (flood, landslide, earthquake, or human-induced disaster). Enhance data analysis and reporting skills for disaster management research.

Course Outcome for GEO-H-DSE-6-03-TH (Advanced Cartography - Theory): Master cartography fundamentals, levelling techniques, and map

projections. Understand Remote Sensing and GIS applications in cartography.

Course Outcome for GEO-H-DSE-6-03-PR (Advanced Cartography - Practical): Develop practical skills in levelling, drawing profiles, and constructing various map projections. Enhance expertise in Remote Sensing, GIS, and spatial data analysis for mapping.

Course Outcome for GEO-H-DSE-6-03-TH (Political Geography - Theory): Understand the concepts, scope, and attributes of states, nations, and nation-states. Explore geopolitical theories like Heartland and Rimland. Analyze resource conflicts, water-sharing disputes, and conflicts related to forest rights and minerals. Examine the politics of displacement in dam and Special Economic Zone projects.

Course Outcome for GEO-H-DSE-6-03-PR (Political Geography - Practical): Develop skills in preparing spatial distribution maps of India for gender, caste, and religion. Analyze migration data, including rural to urban and urban to urban migration patterns. Gain proficiency in preparing a checklist of indices for Social Impact Assessment.

Course Outcome for GEO-H-DSE-6-04-TH (Hydrology and Oceanography - Theory): Understand the hydrological cycle, its components, and human impact on it. Analyze river basins, their surface run-off, and measurements of river discharge. Gain knowledge of ocean floor topography, oceanic movements, and the distribution of ocean salinity and temperature. Learn about coral reefs, marine deposits, and ocean resources.

Course Outcome for GEO-H-DSE-6-04-PR (Hydrology and Oceanography - Practical): Develop skills in morphometric analysis of a river basin using topographical maps. Learn how to calculate discharge using area velocity methods.

Course Outcome for GEO-H-DSE-6-04-TH (Social Geography - Theory): Gain a comprehensive understanding of social geography, including its concept, origin, nature, and scope. Analyze the peopling process of India, technology, occupational change, and migration. Study the spatial distribution of social categories like caste, class, religion, race, and gender.

Course Outcome for GEO-H-DSE-6-04-PR (Social Geography - Practical): Develop practical skills in representing migration trends using flow charts. Learn to visually depict the spatial distribution of caste, religion, and gender in India using proportional circles and proportional divided circles.

- **Course Outcome for GEO-GE-01-TH (Physical Geography - Theory):**

To Understand geography as a discipline, its scope, content, and branches and comprehend geotectonics, Earth's origin, evolution, and interior structure, along with Continental Drift and Plate Tectonic theories. To Identify major rock types and their characteristics. To Learn about weathering and mass wasting in geomorphic processes. To Describe erosional and depositional features created by rivers, glaciers, and wind.

- **Course Outcome for GEO-GE-02-TH (Geography of India - Theory):**

To Understand the physiography, climate, natural vegetation, and soil of India, identify and describe different types of settlements, and analyze the morphology of rural and urban settlements and gain insights into intensive farming (rice), plantation farming (tea and rubber), and horticulture in India.

Note: The write up includes the content of Programme course also as some topics overlaps.

CO-PO MAPPING FYUGP, 2023-24

1. **PO1: Critical Analysis**
2. **PO2: Technical Proficiency**
3. **PO3: Environmental Consciousness**
4. **PO4: Collaboration Skills**
5. **PO5: Effective Communication**

CO-PO Mapping for Additional Courses

Geotectonic (UGEOMAJ11001)

CO	Description	PO1	PO2	PO3	PO4	PO5
CO1	Understanding of geotectonic concepts	✓	✓			
CO2	Skills in data representation and scale construction		✓			✓
CO3	Analysis of continental drift and plate tectonics	✓	✓			

Disaster Management (UGEOSEC11001)

CO	Description	PO1	PO2	PO3	PO4	PO5
CO1	Understanding hazards and disasters	✓		✓		
CO2	Developing disaster management strategies	✓		✓	✓	
CO3	Effective project reporting on disasters				✓	✓

Settlement Geography (UGEOMAJ12002)

CO	Description	PO1	PO2	PO3	PO4	PO5
CO1	Understanding urban and rural settlement dynamics	✓		✓		
CO2	Mastery of scales and map projections		✓		✓	
CO3	Analyzing theories of urban land use and settlement growth	✓				

Sustainable Development (UGEOSEC12002)

CO	Description	PO1	PO2	PO3	PO4	PO5
CO1	Comprehending sustainable development principles	✓		✓		
CO2	Addressing sustainability challenges and strategies	✓		✓	✓	
CO3	Preparing and presenting sustainability reports				✓	✓

Additional Course: Physical Geography (UGEOMIN10001)

CO	Description	PO1	PO2	PO3	PO4	PO5
CO1	Understanding earth's interior and plate tectonics	✓	✓			
CO2	Analysis of geological and atmospheric processes	✓	✓	✓		
CO3	Skill development in map projection and data interpretation		✓		✓	