**Mandatory Questions for the master's degree programme**

**1) Please specify your skills in Biogeography (e.g., vegetation ecology, plant distribution, biodiversity, field methods and laboratory analysis, statistical methods). Please give full and detailed information.**

**Biogeography: Answer Here**

In the field of biogeography, I have developed a comprehensive set of skills including vegetation ecology, plant distribution, biodiversity assessment, and statistical analysis. My expertise in vegetation ecology and plant distribution encompasses understanding various vegetation types, their ecological relationships, and factors influencing their distribution such as climate, soil, and human activities. I am proficient in biodiversity assessment techniques, utilizing indices like the Shannon-Weaver Index and Simpson’s Index to evaluate species richness and evenness, and possess the ability to identify and catalog species across different ecosystems. My fieldwork experience includes collecting and sampling water and soil, conducting vegetation and biodiversity surveys, and performing laboratory analyses of environmental samples. This involves using tools such as GPS, pH meters, and Secchi disks, and applying standard methods for air monitoring, noise measurement, and biodiversity studies. Furthermore, I have studied techniques for collecting and sampling water and soil, understanding and performing basic experiments on water and soil parameters, and employing standard methods for air and noise monitoring. This includes determining pH, electrical conductivity, total dissolved solids, acidity, and alkalinity in both water and soil samples, measuring air quality and assessing biodiversity using various indices and the quadrat method. These experiences have equipped me with essential analytical skills for interpreting environmental data and conducting thorough biogeographical research.

**2) Please specify your skills in Soil Science (e.g. soil distribution, landscape dynamics, classification, chemical arithmetics, geomorphodynamics, laboratory analysis, statistical methods). Please give full and detailed information.**

**Soil Science: Answer Here**

In the field of soil science, I have developed a robust skill set encompassing soil distribution, landscape dynamics, soil classification, chemical arithmetics, geomorphodynamics, laboratory analysis, and statistical methods. My understanding of soil distribution includes knowledge of various soil types and their spatial patterns influenced by factors such as climate, topography, and parent material. I am proficient in studying landscape dynamics, which involves analyzing the processes and changes that shape landscapes over time, and their impact on soil formation and distribution. In the realm of geomorphodynamics, I have examining the interactions between geomorphological processes and soil development. This includes studying erosion, sedimentation, and other landform processes that affect soil properties and distribution. My laboratory analysis skills are well-developed, encompassing a range of techniques for assessing soil physical and chemical properties. This includes the determination of soil pH, electrical conductivity, texture, bulk density, moisture content, and nutrient analysis.

**3) Please specify your skills in Geoinformatics (e.g. knowledge level of programming, spatial analysis techniques, image classification and analysis algorithms for earth observation, (geo)databases, statistics). Please give full and detailed information.**

**Geo Informatics: Answer Here**

In the field of Geoinformatics, I have developed a comprehensive skill set that includes programming, spatial analysis techniques, image classification and analysis algorithms for earth observation, geodatabases, and statistics. I have a solid understanding of spatial analysis techniques, enabling me to manipulate, analyze, and visualize spatial data effectively. I have extensive experience with image classification and analysis algorithms for earth observation, particularly in the context of remote sensing. This includes techniques for processing satellite imagery, such as supervised and unsupervised classification. My knowledge in this area is further strengthened by my coursework from IIT Roorkee on remote sensing essentials and self-study using ArcGIS software. During my bachelor's thesis, I conducted a detailed study on forest cover change detection using remote sensing and GIS in Karbi Anglong district, Assam. This project involved the use of Normalized Difference Vegetation Index (NDVI) mapping and calculation to analyze changes in forest cover over different years. Through this work, I gained practical experience in processing and analyzing satellite imagery, as well as interpreting the results to draw meaningful conclusions about land cover changes. Overall, my background in Geoinformatics is characterized by a strong foundation in both theoretical knowledge and practical application. This includes hands-on experience with advanced geospatial software, programming for spatial analysis, image classification for earth observation, and robust statistical analysis, all of which equip me to conduct high-quality geospatial research and analysis.

**4) Please specify your skills in Climatology (e.g. level of major concepts in mathematics, physics and statistics, analysis and interpretation of climate data by means of field research, laboratory analyses, programming and numeric modelling, knowledge of climate change science). Please give full and detailed information.**

**Climatology: Answer Here**

My understanding of climate change science is comprehensive, covering the greenhouse effect, aerosol effects, biogeochemical cycles, and the hydrological cycle. I am well-versed in the structure of the atmosphere, atmospheric thermodynamics, and circulation patterns. Through my coursework and research, I have gained insights into the interconnectedness of Earth system components and their roles in climate development. I can explain the basic principles and laws governing the climate system, and I understand the impacts of climate change on society, including various mitigation and adaptation measures. Additionally, I have studied the processes and principles of environmental change and global climate change, with a focus on linking science, society, and governance. This includes knowledge of international initiatives, conventions, and treaties related to environmental issues and efforts to control global warming. My skills and knowledge enable me to conduct thorough climatological research, analyze complex climate data, and contribute effectively to discussions on climate change science and policy.

5) Did you receive any grants or awards for your studies? Please specify as detailed as possible (period of grant, type of grant / award etc.).

Yes, I have participated in numerous courses and received several certifications that highlight my dedication to my field. Notably, I have completed courses in Environmental and Resource Economics, and I have studied the United Nations Sustainable Development Goals (UNSDGs). These courses have broadened my understanding of the economic aspects of environmental issues and the global efforts toward sustainability.

In addition to these achievements, I was recognized for my outstanding performance in the course on Remote Sensing Essentials from the Indian Institute of Technology (IIT), where I scored in the top 2% of participants. This distinction underscores my strong grasp of remote sensing principles and techniques.

Furthermore, I obtained an online certification from the United Nations Environment Programme (UNEP), which provided me with valuable insights into environmental management and sustainability practices. I also received a participation certification from the Institute of Electrical and Electronics Engineers (IEEE) for my project on desertification in Rajasthan, which involved applying geoinformatics techniques to address significant environmental challenges.

These recognitions, along with the praise from my supervisor for my thesis on forest cover change detection using remote sensing and GIS in Karbi Anglong district, Assam, reflect my commitment to excellence and continuous professional development in environmental and geospatial studies.

6) Student’s Rank in the Bachelor degree program?

I was part of an integrated MSc batch during my undergraduate studies. However, I decided to exit after completing my BSc to pursue my master's degree abroad. Due to this transition, I do not have an official rank from my undergraduate program, as rankings were not provided at the point of my exit. Nonetheless, my academic performance was strong, and my decision to pursue further studies internationally reflects my commitment to advancing my education and expertise in my field.

7) Here student can add any further information that might be relevant for the application.

In addition to my academic achievements, I have actively sought opportunities to broaden my knowledge and make meaningful contributions to environmental conservation and sustainability. I completed an internship with the esteemed NGO, Dakshin Foundation, where I immersed myself in projects focused on coastal conservation, coastal pollution mitigation, and the empowerment of coastal communities. This experience deepened my understanding of the intricate dynamics between human activities and fragile coastal ecosystems, fueling my passion for environmental stewardship. Furthermore, I am currently engaged in a collaborative effort to publish a book chapter as a co-author with Springer on the pressing topic of climate change. This endeavor underscores my commitment to advancing knowledge in the field and sharing insights that can drive positive change on a global scale. Moreover, I have diligently pursued language studies and achieved an A2 level proficiency in German, recognizing the importance of effective communication and collaboration in international settings. My aspiration to work in an international organization stems from a profound desire to leverage my skills and expertise to address pressing environmental challenges on a global scale. I am driven by a deep-seated commitment to contributing to the well-being of our planet and am eager to embark on a career path that allows me to make a meaningful difference.