



## **Course Outcomes of 2-YEAR M.A./M. Sc. IN GEOGRAPHY**

**DEPARTMENT OF GEOGRAPHY**

**Aliah University**

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# **Combined Course Outcome of -Year M.A./M. Sc. in Geography**

## **Theoretical Papers**

### **GE 401: Philosophy of Geography (4 Credits)**

**Course Aims at:** This course introduces the journey of 'Geography' for recognising itself as a separate discipline and makes the students understand the nature and scopes of this discipline. The shifting of paradigm shifts in this discipline and the contemporary issues and trends in Geography are also introduced in this course.

#### **Learning Outcomes:**

By the time students complete this course they will be able to:

1. Assess the nature and trend in ancient, medieval, modern and post-modern periods in the field of geography and acquire knowledge about the future prospects of Geography as a discourse
2. Develop an idea about the relation with other disciplines
3. Develop a concept on philosophical and methodological issues in the development of the discipline of geography
4. Understand the process of paradigm shift in the approaches to study this discipline
5. Build an idea about contemporary issues and trends in Geography

#### **Career Opportunity:**

The paper is useful for students in understanding perspectives on the development and contemporary trends in geography and its systematic study. The utility of this paper is reflected in UGC NET/SET exams and other competitive exams including the civil services where a noteworthy number of questions come from the Philosophy of Geography paper.

### **GE 402: Advanced Hydrology and Oceanography (4 credits)**

#### **Course Aims at:**

Develops a holistic understanding of fundamentals of hydrology and oceanography and their applications to solve the real life problems. This study has a focus on sustainable development and development of the hydrosphere.

#### **Intended Learning Outcomes of Course:**

After completing this course the students will be able to:

1. Understand hydrological system and water budgeting.
2. Identify the factors governing the hydrological system especially run-off, infiltration and groundwater movements.
3. Understand the application areas of hydrograph, artificial rainmaking and
4. Comprehend the integrated watershed management and rainwater harvesting.
5. Apply the concept of plate tectonics in the evolution of submarine forms and processes

6. Understand distribution of temperature and salinity across the major oceanic system
7. Manage the ocean resources and sustainable development of those resources like coral reef, distribution of other organic and inorganic resources

**Career prospects:**

Completing this course, the advanced level of learning on the fresh water and marine water system, the students will find their positions in various hydrological institutes as hydrologist or water resource manager, in oceanographic institute as physical oceanographer, marine biologists, and resource manager etc.

**GE403: Geomorphology (4 credits)**

**Course Aims at:**

Develop a critical outlook on how landforms originate, develop and changes with time. The beautiful merging of the pure and applied geomorphology in this paper will help the students comprehending the interdisciplinary holistic nature of the subject.

**Intended Learning Outcomes of Course:**

After completing this course the students will be able to:

1. Understand the philosophical schools and paradigm shift in geomorphology
2. Grasp the knowledge of system approach in geomorphology
3. Develop an understanding on slope evolution
4. Gain basic knowledge of fluvial hydraulics
5. Apply the cyclic concepts to study various geomorphic processes and its limitation
6. Integrate the understanding of pure geomorphology to the regional planning and development

**Career prospects:**

Completing this course, the students will help them find some opportunities both in the private and govt. sectors including the positions of geomorphologist, landscape planner, and environmental monitoring analyst. This course will also help to the fields of river basin management and EIA.

**GE404: Pedology and Biogeography (4 credits)**

**Course Aims at**

PG level course, Pedology and Biogeography aims at enhancement of academic and professional skills. It provides scope to understand the plant geography, animal geography and soil geography along with principles of land use planning.

**Intended Learning Outcomes of Course**

After the completion of the course students will be able to:

Acquire knowledge about plant ecology, habitat factors, adaptation of plants, concept of succession and phyto-geographical regions.

Learn causes and consequences of deforestation along with management of forest including agro-forestry, social forestry and participatory management of forest.

Know controlling factors and depletion of Biodiversity.

Learn forms and functions of forest, grassland, mountain and marine ecosystem and concept of Biological Desert.

Understand the Darwin's Theory of Evolution of Species.

Know distribution of animals in geological periods of Palaeozoic, Mesozoic and Cainozoic.

Understand the concept of Dispersal and Migration of animals along with Means and Barriers

Acquire knowledge about Sanctuaries, National Parks, and Biosphere Reserves for Wild Life Management and Bio-diversity Hot Spots in India.

Understand the relationship of plant, water and soil.

Learn the concept of Soil Profile, Pedon and Polypedon.

Comprehend the processes of soil formation including Laterisation, Podsolisation, Calcification, Salinization and Alkanization.

Acquire knowledge about Soil Geomorphology including development of Soil Catena under different environmental conditions and understand the concept of Soil Morphology and Chrono-sequence.

Classify Soil with Genetic and USDA System.

Identify the concept of Land, Land Use and Landscape Ecology.

Learn Principles of Land Use Planning after Stamp, Lewis and Graham

Acquire knowledge about Basic principles of Land Use Planning with special reference to Urban and Rural areas and Ecological impact of land reclamation.

Classify land with UK and USDA system.

### **Career prospects**

There is high demand for a wide range of professional positions with government and private sectors. A good career opportunities in governmental organizations through competition test carried out by SSC, UPSC or PSC. Beside that a good career opportunities exist to be Academicians. There are also scope of policy related jobs, developmental jobs and many more.

## **GE 405: Climatology and Meteorology (4 Credits)**

### **Course Aims at:**

Develop and demonstrating a baseline level of academic and professional skills including, but certainly not restricted to; academic reading, writing, oral communication, group work, peer assessment, research integrity and personal reflection. In the era of global warming and climate change and devastation played by extreme weather phenomenon, Climatology and Meteorology offer numerous avenues to the students and researchers. Through this course students are expected to develop the followings.

### **Intended Learning Outcomes of Course:**

By the time students complete this course they will be able to:

Use different instruments to collect meteorological data for application in meteorological problem.

Learn map science and art behind representation of climatic data.

Make visualization of climatic maps and charts and Synoptic charts for users.

Make policy makers better equipped with agro-meteorological, agro-irrigation and other uses.

Select and correctly reference literature to equip them for writing research reports.

Make them employable for the contemporary job markets.

Develop to handle projects of their own from designing to implementation.

### **Career prospects:**

Good career opportunities exist in both the private and public sectors particularly after the introduction of digital weather and hydrological instruments. Among the govt departments and public sector undertakings, there are ample opportunities for the Department of Meteorology, Agriculture, Navigation and Aviation, Irrigation and some other relevant departments.

## **GE406: Social and Cultural Geography (4 credits)**

### **Course Aims at**

Aim of this PG level social and cultural geography course is to provide opportunities to understand the concepts of social and cultural geography along with kind of social problems of India.

### **Intended Learning Outcomes of Course**

After the completion of the course students will be able to:

Understand the definition, scope, content and current trends of the subject Social geography and Cultural geography.

Learn some concepts like social welfare, social wellbeing, quality of life, social structure, social processes, social inequality and social justice.

Acquire knowledge about different social indicators like tribe, castes, ethnicity, religion, race, dialect and language.

Learn some concepts of cultural Hearth and Realm, Cultural Diffusion.

Acquire knowledge about different elements of Cultural Geography like cultural segregation, cultural diversity, acculturation, cultural landscape, cultural area and cultural region.

### **Career prospects**

There is ample opportunity in governmental organizations through competition test carried out by SSC, UPSC or PSC. Beside that a good career opportunities exist to be Academicians. There are also scope of policy related jobs, developmental jobs and many more.

## **GE407: Economic Geography (4 Credits)**

### **Course Aims at:**

The aims of this course is to introduce the major subject matters of economic geography with different approaches to the students. The students will also learn about concept, classification and conservation of resources, occupational organization and classification of economic activity. Students will also understand agricultural production and productivity, different methods of agricultural productivity and crop combinations. They will also learn about the location models of industries, concept of distance, accessibility and connectivity, transport costs and International trade, SEZ, EEZ, EPZ, E-commerce.

### **Intended Learning Outcomes of Course:**

On completion of the course, students are able to:

1. Understand the concept and classification of resources, problems, conservation and planning of natural resources.
2. Know the historical background of energy use and development with global energy crisis and green technology.
3. Identify the location of economic activities and its spatial organization, sectors of economy and ranking of world economies.
4. Understand the measures of agriculture productivity and efficiency and role of technological changes in agriculture after Green Revolution.
5. Study the techniques of delineation of agricultural regions, crop combination and diversification.
6. Understand the Von Thunen's model and Sinclair's model and their present day relevance.
7. Study the food security in India and importance of land reform and farm size.
8. Understand the classification of Industries; theories of industrial location namely Weber and Losch and their present day applicability.
9. Study the process of industrialization and economic growth and problems of industrial sickness.
10. Understand the new industrial policy in India and role of Liberalisation, Privatisation, and Globalisation.
11. Identify the emerging industries in India and analyse food processing and Information Technology industries.
12. Understand the concept of distance, accessibility and connectivity
13. Study the models of transportation and transport cost
14. Know the significance of trade in international and national economy; Balance of payments and international trade; Role of GATT, WTO and TRIPS in changing trade policy of India.
15. Acquire the concept, problems and consequences of EPZ (Export Processing Zone), SEZ (Special Economic Zone) and EEZ (Exclusive Economic Zone), delineation.

### **Career Prospects:**

This course will prepare the students with the ability to critically assess research designs and results and policy implications on different issues related to resource and economic disparity in geographical perspectives. It will give students an excellent basis for either a PhD research position at a university in national or international research institutions. It also help the students in various competitive examinations namely NET/SET, UPSC and other competitive examinations where lots of questions cover from this course. It also help the students for teaching position and other positions in organisations such as government ministries, regional and local authorities, NGO and private research institutes.

### **GE 408: Demography and Ekistics (4 Credits)**

**Course Aims at:** Demography includes the study of the size, structure and distribution of populations, and how populations change over time due to births, deaths, migration, and ageing. To introduce the concept, scope, nature, theories, development, models, and laws of population, demography and settlement. To understands the various types, function and characteristics of settlement. To studies the emergence and scope of ekistics and its need in shaping the Human Settlements. To studies the various factors effecting to the population, demography and settlement growth. The course intends to provide the students with the holistic understanding of our complex, indigenous, old and new city fabrics across the disciplines so that they could play meaningful roles in urban development, city growth, planning and shaping our settlements; ultimately improving the quality of life.

**Learning Outcomes:** At the end of the Demography and Ekistics students will

Obtain information regarding various demography and settlement issues.

be able to gain knowledge related many theories models and laws of population, demography and settlement.

Know about various factors effects on growth of population, demography and development of urban sector and proximate determinants.

Learn some programme, policies and housing planning for better settlement development.

learn the demographic profile and spatial information of settlements and to study the various aspects of urban development and housing policies, programme and planning.

**Career Opportunity:** After pursuing courses in this field, they can apply for jobs in government as well as in private organizations. There are various job opportunities are available for demographer graduate aspirants. After completion of this program, candidates can opt for jobs in government sector while varies the qualification requirement in college and universities, NGOs, govt. institutions, international organizations such as to be teacher/ lecturer, surveyor, researcher, social worker, demography scientist etc. they may be join as Market Research Analyst (Marketing), Operations Research Analyst, Economic Research analyst in Insurance companies, Banks, Governments, Health Care providers, Marketing agencies, Manufacturing companies and census offices.

### **GE 501: Political and Electoral Geography (4 Credits)**

**Course Aims at:**

Political geography extent the study of territory and political economy, territory and the state, politics of identity, politics of borders, politics of sharing water, politics of world resources and

sovereignty, electoral geography and environment policy. This course introduces to students about the concept, scope, nature, theories, development, and models of political and electoral geography. To understands the various issues of geopolitics and conceptualizing the nation, State, boundaries, water and border disputes. To knows the geopolitical setting of India and other geo-political issues of Indian subcontinents. To studies the politics of world resources, federalism, foreign trade, disputes of geo-political issues at national as well as international level. The course intends to provide the students with the holistic understanding of our complex, indigenous, political and electoral geography concept and importance at national as well international across the disciplines, so that they could play meaningful roles in political and electoral geography development.

**Learning Outcomes:** At the end of the Political and Electoral Geographystudents will

be able to gain knowledge about few theories related geo-strategic views of political geography

Know about various disputes related sharing of water, borders at national as well as international level.

Learn about regional stability, re-alignment, system models and electoral system in India.

Learn the politics of world resources, federalism, foreign trade, terrorism, trade relations and disputes of geo-political issues at international level.

**Career Opportunity:** After pursuing courses in this field, they can apply for jobs in government as well as in private organizations. After completion of this program, candidates can opt for jobs in government sector while varies the qualification requirement in college and universities, NGOs, govt. institutions, international organizations such as to be teacher/ lecturer, surveyor, researcher, social worker, demography scientist etc. they may be join as Research Analyst or policy analysis, political Research analyst in political organizations, journalist, Government worker, including customs officer and employment insurance officer, police officer, community activist, electoral returning officer, programme manager, project officer and communication officers with a govt. organizations.

### **GE502: Advanced Geomorphology-I (Special Paper Theory) (4 credits)**

#### **Course Aims at:**

Develop a advanced level of learning on various approaches to geomorphology with a critical outlook. Besides, this course will focus on geomorphic hazards and regional geomorphology of India.

#### **Intended Learning Outcomes of Course:**

After completing this course the students will be able to:

1. Understand the changing nature of geomorphology and its relation with other disciplines of physical and social sciences
2. Grasp the knowledge of quantitative geomorphology and the application of geoinformatics in geomorphic analysis,
3. Learn how to deal with the sensitive geomorphic system in the era of anthropocene – especially river basin management and coastal management.



4. Comprehend the nature, mechanism and mitigation of geomorphic hazards such as landslide, avalanches, flood, river bank erosion
5. Gain an understanding about the regional geomorphology of India with special reference to Eastern Himalaya, Chotonagpur Plateau and Digha coastal plains.

**Career prospects:**

Completing this course, the students will help them find some opportunities both in the private and govt. sectors including the positions of geomorphologist, landscape planner and designer, and environmental monitoring analyst. Besides, this study will be helpful for various state level and National level competitive exams like WBCS, UPSC civil services, NET (UGC & CSIR)/GATE/SET.

**GE 502: Population Geography – I [Special Paper Theory] (4 Credits)**

**Course Aims at:** The purpose of this course is to educate the present generation about population, demography and development to know the social change in society to introduce the concept, scope, nature and development of demography and population. Population explosion is a curse and is damaging to the development of the country and its society. Students are introduced to the main theories, models and laws used to understand the demography, population and societal change. It also helpful in knowing various kinds of demographic problems, changes issues and determinates. To studies the various factors effecting to the population, demography and settlement growth. Basically, population education is designed to improve and increase people’s knowledge and awareness of the cause and consequence of population growth at the family, national and international levels. It aims to provide a better understanding of the relationship between population processes and dynamics.

**Learning Outcomes:** At the end of the Population Geography students will

Obtain information regarding various demography and population issues and spatial information of sources of demography and population data.

be able to gain knowledge related many theories models and laws of demography determinates and population.

Be aware with the consequences of rapid population growth on different aspects and to develop capacity in students to suggest the direct and indirect measures to control rapid population growth

Know the growth, density, distribution, determinates, spatial temporal trend of population in India.

Learn the concept and various measures, determinants and temporal trend of fertility, mortality and migration.

Know the measures, determinants, distribution, and importance of study of sex and age composition, occupational structure and rural and urban dichotomy.

**Career Opportunity:** After pursuing courses in this field, they can apply for jobs in government as well as in private organizations. There are various job opportunities are available for population graduate aspirants. Candidates can opt for jobs in government sector in college and universities, NGOs, govt. institutions, international organizations such as to be teacher/ lecturer, surveyor, researcher, social worker, demography scientist etc. they may be join as Market Research Analyst (Marketing), Operations Research Analyst, Economic Research analyst in

Insurance companies, Banks, Marketing agencies, Population census, Population dynamics, Public awareness programs, Population Economics, Micro-finance, Health and Education Departments, Consumer awareness, Mass media, Research, opinion survey companies WHO and UN Organizations etc.

### **GE 502: Urban Planning – I [Special Paper Theory] (4 Credits)**

**Course Aims at:** Urban Planning is the part of societal development associated with the meticulous planning of a city's layout. This course explores important substantive areas and concepts in the field of urban and regional planning, policy and issues. The aim of this is to introduce the conception, scope, nature, theories, development, planning in urban sector. To studies the growth, density, distribution, trend and pattern of urbanization in developing countries. It aims to provide a better understanding of the relationship between urban processes and dynamics. The course intends to provide the students with the holistic understanding of our complex, indigenous, old and new city fabrics across the disciplines so that they could play meaningful roles in urban development, city growth, planning, globalization and shaping to urban settlements; ultimately improving the quality of life.

**Learning Outcomes:** At the end of the Urban Planning students will

Learn regarding various urban development issues, process, problems and consequences.

be able to gain knowledge related many theories, models and laws of Urban System.

be able to know about the urbanization process of transformation with demography, economy, socio-cultural process and learn about various factors and effects on urban development environment and its process.

Learn about concept of various fields within urban system planning, such as hierarchy of urban settlement, city region, urban sprawl and Umland, satellite and dormitory town with major policy issues and problems within each of the fields

Learn the urbanization process, trend and pattern, problems in India. Students will also learn the concept of urbanization in the era of globalization and salient features of urbanization in developed and developing countries.

**Career Opportunity:** Urban Planning is an emerging field that has opened several posts in the private and government sectors. Mostly job opportunities in urban sectors depend upon the economic condition and budget allotted by the government. Whether it is the municipalities, metro and railway corporations, transport or communication network, urban planners are highly in demand these days. Candidates can opt for jobs in government sector in college and universities, NGOs, govt. institutions, international organizations such as to be teacher/ lecturer, surveyor, researcher. They may be join as Historic buildings inspector/conservation officer, Housing manager/officer, Local government officer, Town planner, Transport planner, urban designer, Civil Service administrator, Community development worker, Environmental manager, Landscape architect, Planning and development surveyor, Sustainability consultant, operations Research Analyst, Economic Research analyst in Insurance companies, census offices, Research, opinion survey companies.

### **GE503: Regional Planning and Development Studies] (4 Credits)**

**Course Aims at:**

Provide students with opportunities for cooperative and intern placements to complement the academic training and facilitate student entry into the practice. It also aims to maintain relationship with planning professionals and educators. The course develops a learning outcomes

driven approach to curriculum development and student attainment. This will allow students to meet the needs of professional planning practice.

### **Intended Learning Outcomes of Course:**

By the time students complete this course they will be able to:

8. Acquire knowledge in the principles and practice of learning, including regional spatial structure and economic development.
9. Enable students with skills necessary for the effective practice of planning, including its purpose and meaning, methods that envision future change, elements of plans, plan preparation and implementation.
10. Make students able for policy formulation that almost society need.
11. Develop values and ethical standards among students necessary to affect the practice of planning, including the values of justice, equity, fairness, efficiency, order and beauty.
12. Enable students with knowledge from various regional planning and development theories.

### **Career prospects:**

There is growing need for those with degree in geography and regional planning in public and private sectors. Regional planners develop land use plans and programmes to reorganize land use in most scientific way to accommodate population growth and revitalizing physical facilities. A very good career prospects exist in both public and private sectors. Job opportunities as planner exist at all administrative level in urban and rural government. Positions include land use planner, community development specialist, transportation planner, technical specialist, geographical information system specialist or analyst etc. A range of jobs are available for the proficient students as community development planner, housing development specialist, neighbourhood planner, planning director, community development director, regional planner etc.

### **GE504: Advanced Geomorphology-II (Special Paper Theory) (4 Credits)**

Develop an advanced level of learning on geomorphic models to account for the development of the various forms and processes in various climatic regimes. A special emphasis is given on the fluvial and coastal processes.

### **Intended Learning Outcomes of Course:**

After completing this course the students will be able to:

1. Understand the complex geomorphic system of the humid tropics.
2. Develop a critical outlook on the models of the plantation surfaces, model of channel initiation, development of catena and duricrust
3. An understanding on the fluvial hydraulics and regime regimes in different climatic regions
4. Comprehending the integrated nature of the coastal system and the human interventions changing the coastal forms and processes.

**Career prospects:**

Completing this course, the students will help them find some opportunities both in the private and govt. sectors including the positions of geomorphologist, landscape planner and designer, and environmental monitoring analyst. Besides, this study will be helpful for various state level and National level competitive exams like WBCS, UPSC civil services, NET (UGC & CSIR)/GATE/SET.

**GE 504: Population Geography-II (Special Paper – Theory) (4 Credits)**

**Population, development, environment and population policies are the core are of the course**

Scholars understand population and development, population and environment related issues. The earth's human population is growing quickly, especially in peripheral countries of developed world. How the resource distribution and accessibility resources has created inequality in the population. Different measures of Human Development and Gender specific development are dealt. Population policies to tackle factors that impact population include birthrates, mortality rates, and migration, including immigration and emigration are covered. There are numerous potential outcomes, often negative, of the growing population, and sociological perspectives vary on the potential effect of these increased numbers. The growth will pressure the already taxed planet and its natural resources.

**What you'll learn to do:**

- Understand different measurements of human development and quality of life,
- Understand the difference between environmental refugee and displaced people, and also an internally displaced person, an asylum-seeker, and a refugee,
- Describe a number of population policies of countries with small and stable population and also fast growing countries.

**Career prospects:**

Good career opportunities with knowledge and skill of demographic data analysis and interpretation exist in both the private and public sectors growing population is problem and will remain same even in the years to come. Among the government departments and public sector undertakings, there are ample opportunities for job in the Census Organization of India, NSSO, NHFS, Social Backward and Social Development Department etc. There are number of NGOs dealing with population, health, labour and gender related issues where there are scopes of absorption.

**GE504: Urban Planning-II (Theory)****Course Aims at:**

The course goes into details like housing, infrastructure, land uses, urban governance and urban transport network with an aims to provide knowledge and training to the students about basics of urban planning. The fundamental as well as theoretical frameworks of urban planning contained in the course may guide students while planning a city.

**Intended Learning Outcomes of Course:**

By the time students complete this course they will be able to:

1. Acquire knowledge in the principles and practice of learning, including regional and urban planning.
2. Enable students with skills necessary for the effective urban planning practice.
3. Make students able for policy formulation that almost society need.
4. Make students aware of the significance urban planning of both global and national scenario therefore the students would be capable of understanding the critical social and economic issues mainly in developing countries like India.
5. Familiarize students with the existing models of urban planning practice and different programmes and policies of urban development in India.

### **Career prospects:**

There is growing need for those with degree in geography and urban planning in public and private sectors. Urban planners develop urban land use plans and programmes to reorganize land use in most scientific way to accommodate population growth and revitalizing urban infrastructure to make balance between demand for infrastructure and their supply. A very good career prospects exist in both public and private sectors. Job opportunities as planner exist at all administrative level in urban and rural government. Positions include land use planner, community development specialist, transportation planner, technical specialist, geographical information system specialist or analyst etc. A range of jobs are available for the proficient students as community development planner, housing development specialist, neighbourhood planner, planning director, community development director, regional planner, urban planner in municipality and municipal corporations etc.

### **GE 505: India: Regional Problems and Resource Management (4 Credits)**

**Course Aims at:** The purpose of this course is to educate the present generation about regional problems, mitigation, socio economic issues and natural resource management in India. Students will get an introduction of regional problems such as water availability, seismic activity, desertification, Stalination, flood, drought, water share, and cyclone etc. in the regions of Himalayan belt, Arid regions, Great plains, plateaus and coastal belt. It will introduce with various socio-economic issues in India including changing natures of India economy, rural urban linkages and rural urban development. To studies the natural resources management in India and study of Ganga Delta as a case study from India. It aims to provide a better understanding to show the regional disparities, problems, socio economic issues and management of natural resources in India.

**Learning Outcomes:** At the end of the Regional Problems and Resource Management students will

Obtain information regarding various regional problems, mitigation, socio economic issues and natural resource management in India.

be able to learn problems related water availability, seismic activity, desertification, Stalination, flood, drought, water share, and cyclone etc. in the regions of Himalayan belt, Arid regions, Great plains, plateaus and coastal belt.

Know the development changing nature of economy related agriculture, industry, trade and transport and regional disparities of development in India.

Learn the urbanization problems, process and Hierarchy and learn the natural resources management and also will be able to know about Ganga Delta environment as a case study from India

**Career Opportunity:** After pursuing courses in this field, they can apply for jobs in government as well as in private organizations. Candidates can opt for jobs in government sector in college and universities, NGOs, govt. institutions, international organizations such as to be teacher/ lecturer, surveyor, researcher, social worker, etc. they may be join as operations Research Analyst, census offices, social workers in disaster management programme, Public awareness programs, Health and Education Departments, opinion survey companies, Compensation Manager, Employee Relations Manager, Training and Development Manager, Change consultant, Human resources assistant, Benefits administrator, Training coordinator, Compensation specialist. Today's resources management workers juggle these tasks and, increasingly, consult top executives regarding strategic planning. They have moved from behind-the-scenes staff work to leading the company in suggesting and changing policies. Senior management is recognizing the importance of the human resources department to their bottom line.

### **GE506: Research Methodology (4 Credits)**

#### **Course Aims at:**

This aims to provide students with an excellent knowledge and training of research design, research methods, methodological principles, data handling, data processing and inference extracting and report writing.

#### **Intended Learning Outcomes of Course:**

By the time students complete this course they will be able to:

1. Make students understood of some basic concepts of research and its methodologies.
2. Enable students with knowledge of framing research problems and research questions.
3. Make students able to organize and pursue an impactful research in an appropriate manner.
4. Develop values and ethical standards among students necessary to pursue a research, writing a report and thesis.

#### **Career prospects:**

This course is perfect for those students who want to enhance analytical and applied skills in research and want job in research field. A student with a proficiency of research methodology have ample job opportunities in research and development field. A range of jobs in research and academic exist colleges, universities, NGOs, Gov't Institutions, International organization etc.

### **GE 507: Environmental Issues in Geography (4 Credits)**

#### **Course Aims at**

Aim of the course, Environmental Issues in Geography is to provide opportunities to understand different issues related to environment along with provision of knowledge of major initiatives taken for the same.

## **Intended Learning Outcomes of Course**

After the completion of the course students will be able to:

Acquire knowledge of the subject, Environmental Science and geographers' approach to the study of the environment.

Learn physical and socio-cultural components of environment, environmental pollution and pattern of environmental degradation in India.

Understand different types of social hazards.

Enhance the understanding of conservation of biotic resources, control of bio-piracy, management of wetland and wasteland and importance of eco-tourism.

Learn different Global Environmental Issues like environmental problems associated with Production technology, technological fix and Global resource crisis and its management.

Know about global initiation like Kyoto Protocol and Montreal Protocol.

Understand concepts of environmental perception, awareness, education and ethics.

Recognise major environmental issues in India like impact of big dams, inter-linking of Himalayan and Peninsular rivers, man-animal conflict in forest-society interface, biotechnology and issues related to Genetically Modified Organisms, and environmental degradation and social conflict related to urban-industrial expansion.

Know about initiative measures taken by India like preservation of sacred groves, major environmental movements in India.

## **Career prospects**

There is high demand for a wide range of professional positions with government and private sectors. There is ample opportunity in governmental organizations through competition test carried out by SSC, UPSC or PSC. Beside that a good career opportunities exist to be academicians, policy related jobs, developmental jobs and many more. A good career opportunities exist as environmental pollution specialist, environmental technician, conservation planner, wetland specialist, watershed technician etc.

## **Practical Papers**

### **GE 491: Quantitative Techniques in Geography (4 Credits)**

#### **Course Description:**

Quantitative Methods in Geography comprises of lectures, discussions and exercises and is designed as an undergraduate level introduction to spatial analysis and the application of statistical methods in a spatial context. The focus is on the development of a working knowledge of statistical and quantitative techniques and the application of these to geographic data sets. Emphasis is placed upon sound practices in data acquisition, the development of problem structures, and the evaluation and interpretation of solutions. There are discussions in class of particular techniques as applied in the published geographical literature.

**Course Aims at:**

Develop and demonstrating a baseline level of academic and professional skills including, but certainly not restricted to; academic reading, writing, oral communication, group work, peer assessment, research integrity and personal reflection.

**Intended Learning Outcomes of Course:**

By the time students complete this course they will be able to:

The course will allow everyone to learn and develop skills in the use of statistical techniques,

Collect, tabulate and analyses quantitative data independently,

Use quantitative data in the spatial context to explain spatial features,

Use spatial data to solve geographical problems,

Use spatial data to build, test and validate spatial models, theories, hypothesis and law.

**Career prospects:**

Adequate career opportunities with knowledge and skill of demographic data analysis and interpretation exist in both the private and public sectors growing population is problem and will remain same even in the years to come. Among the government departments and public sector undertakings, there are ample opportunities for job in the Census Organization of India, NSSO, NHFS, Social Backward and Social Development Department etc. The CSSO and similar organization such as Bureau of Statistics and Applied economics and Ministry of Statistics and planning employ such persons. There are number of NGOs dealing with population, health, labour and gender related issues where there are scopes of absorption.

**GE 492: Cartography (4 Credits)****Course Aims at:**

Develop and demonstrating a baseline level of academic and professional skills including, but certainly not restricted to; academic reading, writing, oral communication, group work, peer assessment, research integrity and personal reflection. In the era of supra interaction between regions and world becoming nearly virtual, map become more and more important. The course aims at achieving the great skill of art and science of map making and map interpretation.

**Intended Learning Outcomes of Course:**

By the time students complete this course they will be able to:

Use different instruments to collect base level data for cartographic map production.

Learn map science and art behind making maps.

Make visualize space and place for users.

Make policy makers better equipped with location, availability and accessibility resources.

Work in a collaborative setting with experience of work in the field.

Select and correctly reference literature to equip them for writing research reports.

Make them employable for the contemporary job markets.

Develop to handle projects of their own from designing to implementation.



**Career prospects:**

Good career opportunities exist in both the private and public sectors particularly after the introduction of digital cartography coupled with GIS skills. Positions include cartographer with map publishing company, government agency, or private service agency; GIS specialist, ranging from support in large corporations (banking, insurance, retail), environmental consultancies, local authorities, utility companies; mapping specialist with software house or geoinformation data provider. In the govt departments and public sector undertakings there are ample opportunities for the cartographers, particularly in Census of India, Department of Surface Transport, Railway, Navigation and Aviation, Irrigation, Mining, Planning and Development, Agriculture, Forestry and wildlife some of the departments where job opportunities are there for cartographers.

**GE493: Advanced Statistics in Geography (4 Credits)****Course outcome****Course Aims at:**

Primary aim of the PG level advanced statistics in geography is to provide opportunities to understand to handle inferential statistical models and their application in solving geographical problems of spatial and temporal perspective.

**Intended Learning Outcomes of Course:**

By the time students complete this course they will be able to:

1. Keeping in view the nature of data and purpose of study, students would be able to make rational choice amongst listed various statistical methods.
2. Show proficiency in advanced statistical skills to solve geographical problems.
3. Analyse spatial data to solve some real-life problems of human beings in spatial context.
4. Acquaint students with computing, interpreting and extracting inferences of the results of bivariate linear and non-linear regression and correlation.
5. Analyse spatial data and their analyzing for forecasting the phenomena and tracking the temporal trend pattern.

**Career prospects:**

Spatial and temporal data analyst know how to access spatial data and they understand how to apply this information. Their job may involve gathering data and presenting it in reports or on maps. They use a combination of computer and mathematical skills to develop applications and programmes that can gather geospatial data. The proficient data analyst may have a range of jobs in multiple sectors including education, commerce, industry transport, tourism and public sectors.

**GE-494: Computer Application and GPS (4 Credits)****Course Aims at:**

The main aims of this course is to expose the students to understand the application of computer and GPS (Global Positioning System) in the field of geography including the basic concepts of definition, methods and techniques. They will also learnt about its applicability in the field.

**Intended Learning Outcomes of Course:**

On completion of the course, students are able to:

1. Understand Microsoft excel, work sheet and learn the basic about the preparation of different types of graphs in Microsoft excel software.
2. Apply and understand the data analysis techniques and prepare various graphs.
3. Understand the various basics statistical techniques namely, mean, median, mode, standard deviation, variance, covariance, regression, correlation, T-test, F-test, Z-test, Chi-Square test for analysis the geographical data.
4. Apply moving average technique to understand the trends of geographical data.
5. Understand the principles of GPS (Global Positioning System).
6. Know the different techniques of GPS survey and capability of GPS receivers.
7. Understand the application of GPS in field survey and make report using GPS.

### **Career Prospects:**

This course will train the students with the ability to handle large number of numerical information/data mainly related to population and socio-economic data. It also help the students in various competitive examinations namely NET/SET, UPSC and other competitive examinations where lots of questions cover from this course. Moreover, it also help the students to get job statistical analyst, data collector/technician, database administrator, social researcher, research and development manager and teacher.

### **GE 572: Dissertation and Seminar Presentation (4 Credits)**

#### **Course Aims at:**

The course aims at providing students with teaching and training to practice independent scientific thinking by setting up of research questions and studying a specific research topic. The oral dissemination and defense of scientific foundation of the thesis is an effective tool of gaining an appreciation for the art of presentation which will help them in research career.

#### **Learning Outcomes:**

More detailed learning outcomes for the students are to;

1. Make the students understood about the structure of the thesis and how different parts are built up to a coherent whole.
2. Teach them the academic styles of writing, and how references are used in the thesis.
3. Learn the structure of academic presentation and how to present a good research plan and result presentation.
4. Develop their presentation skills.
5. Students also have skills to receive and utilize feedback in a meaningful way to improve in their future works.

#### **Career Opportunity:**

A trained students and well versed in this course have bright research career. Since this course gives a foundation to the scientific research work, a student can write up a good research project proposal and can pursue an effective research. A large number job opportunities in the posts of Research Assistant, Research Associate etc. are exist in gov't and non-gov't institutions/organizations. Beside, scholars can pursue an independent research project.

## **GE582: Grand Viva (4 Credits)**

### **Course Aims at:**

Grand viva is an integral part of an assessment system during postgraduate examinations. The aims of this course (Grand Viva) is to equip the student's ability to focus on comprehensive theoretical and practical knowledge and concepts of geography and its related issues in public platform. Further, it assesses the attitude, communication skill, and convincing power of the student effectively.

### **Intended Learning Outcomes of Course:**

On completion of the course, students are able to:

1. Develop an effective communication skill at various level.
2. Demonstrate in-depth knowledge of the theory, practical and research in the discipline of geography.
3. Assess the ability of the discipline of geography to provide a useful and healthy forum for exploring, analysing and responding to developments at the man-environment interface.
4. Establish an ability to present and defend research work/research proposal in oral, written, and graphic forms.
5. Practice articulating and communicating solutions to geographical problems and its policy or recommendations within team settings.

### **Career Prospects:**

This course will make the students with the ability to present or express the research design and policy implications on different issues related to geography. It will give students an excellent basis for improvement of communication skill at public platform. It also help the students in various competitive examinations namely UPSC, state public service commission and other competitive examinations where communication skill play a vital role. It also help the students for teaching position and other positions in organisations such as government ministries, regional and local authorities, marketing, NGO and private research institutes.

## **GE592: Advanced Geomorphology-III (Special Paper Practical) (4 credits)**

### **Course Aims at:**

Develop an advanced level of learning on drainage basin morphometry, fluvial hydraulics and sedimentology based on the field survey, instrumental record, and laboratory analysis.

### **Intended Learning Outcomes of Course:**

After completing this course the students will be able to:

1. Apply the SPSS/Excel to analyse the dynamics of drainage basin using multi-variate perspectives
2. Use auto level for slope profiling, current meter for measuring velocity, clinometers for dip measurement
3. Collect the samples of water and sediment especially for measuring the sediment concentration and D50.

4. Analyse shape, and size of the pebbles and plot on Zingg diagram to comment on fluvial dynamics
5. Prepare panel diagram based on field data
6. Extract geomorphic features from the FCC and overlay analysis.

**Career prospects:**

Completing this course, the students will help them find some opportunities both in the private and govt. sectors including the positions of Field guide, geomorphologist, landscape planner and designer, and environmental monitoring analyst, laboratory staff. Besides, this study will be helpful for various state level and National level competitive exams like WBCS, UPSC civil services, NET (UGC & CSIR)/GATE/SET.

**GE592: Urban Planning-III (Practical) ( 4 Credits)**

**Course Aims at:**

The course goes into detail of infrastructure and land uses planning for achieving optimum land use location. This aims to provide students with the practical knowledge and training of urban planning basics as well as hands-on training of master plan preparation.

**Intended Learning Outcomes of Course:**

By the time students complete this course they will be able to:

1. Acquire practical knowledge in the principles and practice of urban planning.
2. Enable students with hands-on training of necessary for the effective urban planning practice.
3. Make students able to conduct objective base field study planning and policy formulation that almost society need.
4. Familiarize students with the existing mathematical models of urban planning practice.

**Career prospects:**

There is growing need for those with degree in urban planning in public and private sectors. A very good career prospects exist in both public and private sectors. A range of jobs are available for the proficient students as community development planner, housing development specialist, neighbourhood planner, planning director, community development director, regional planner, urban planner in municipality and municipal corporations etc. Job opportunities as planner exist at all administrative level in urban and rural government. Positions include land use planner, community development specialist, transportation planner, technical specialist, geographical information system specialist or analyst etc.

## **GE592: Special Paper Practical (Population Geography – III) (4 Credits)**

### **Course Aims at:**

The aims of the course is to understand the practical ability of collecting, analyzing and presenting data that has an areal dimension, such as census data to the students. Students will also apply various methods and techniques for measurement of population change and socio-economic disparity and inequality. They will also understand the ability to prepare survey schedule and questionnaire for collection of primary data.

### **Intended Learning Outcomes of Course:**

On completion of the course, students are able to:

1. Measure the growth rate of population by Arithmetic, Geometric and exponential methods.
2. Measure the projected population by Arithmetic, Geometric, exponential and geometric mean methods and also understand the doubling time of population.
3. Understand the concept, construction and interpretation of life table and its significance in geographical study.
4. Measure and interpret the concentration of population and dependency ratio.
5. Understand the measures of displacement with the help of index of dissimilarity and index of ageing.
6. Know the measures of inequality by using Lorenz curve and Gini's coefficient.
7. Understand the computation of HDI, GDI, Poverty Index, Headcount Index, and PQLI and their inferences.
8. Know the construction of age-sex pyramid, sex ratio, masculinity ratio, femininity ratio and their interpretations.
9. Understand the Census data enumeration techniques and analysis.
10. Prepare questionnaire and survey schedule for collection of primary data.
11. Understand the Population potential by gravity model and functional gap area analysis by Residual Method.
12. Know the concept and computation of Principal Component Analysis (PCA) by using Microsoft excel software.

### **Career Prospects:**

This course will helps the students to identifying and resolving population issues, including public health, migration, ageing population, dependency ratio, quality of life and other such concerns. Moreover, it also critically assesses research designs and results and policy implications on different issues of health, education, housing, sanitation and welfare. Holders of master's in population geography also have to work with census data to provide descriptive details forming the basis of population studies. It also help the students in various competitive examinations namely NET/SET, UPSC and other competitive examinations where lots of questions cover from this course. It will give students an excellent basis for either a PhD research position at a university in national or international research institutions. It also help the students for teaching position and other positions in organisations such as government ministries, regional and local authorities, NGO and private research institutes.

**List of Faculty members:**

1. AKM (Dr. Abul Kalam Mohammad Anwaruzzaman)
2. JA (Dr. Md. Julfikar Ali)
3. MM (Dr. Md. Mustaquim)
4. RK (Dr. Rukhsana)
5. AI ( Dr. Aznarul Islam)
6. MK (Dr. Moududa Khatun)
7. NB (Dr. Nasrin Banu)

**Disclaimer:**

1. Course outcomes are only indicative, not exhaustive.
2. Offering of course by a faculty member is not fixed; it changes with availability of faculty member in the department. Sometimes a course is shared by two or even more faculty members according to the need.