

**ACADEMIC STAFF COLLEGE  
JAMIA MILLIA ISLAMIA  
NEW DELHI  
Course Content**

**15<sup>th</sup> Refresher Course in Geography and Environmental Studies  
(22<sup>nd</sup> January to 13<sup>th</sup> February 2013)**

**Components of the Refresher Course in Geography and Environmental Studies**

In order to achieve the objectives of the scheme, the curriculum for the 15<sup>th</sup>- 3 Week Refresher Course in Geography and Environmental Studies will have the following components:

Component A:	Core of the Discipline
Component B:	Tools in Geography
Component C:	Application of tools

The details of these components are as follows:

**Component A:                      Core of the Discipline**

“Geography is concerned to provide accurate, orderly and rational description and interpretation of the variable character of the Earth’s surface” (Richard Hartshorne). It has evolved through time and expanded its horizon but at the same time has witnessed the paradigm shifts all along its development. The population is continuously increasing and consequently the landscape is being modified to meet the needs. Urban areas are expanding and rural areas are shrinking at the cost of prime agricultural land. Area under agriculture has reached the saturation point and in the process of increasing production with the help of modern inputs, many physical, economic and social problems have been created. Rapid rate of urbanization and industrialization has changed the face of urban landscape leading to deterioration in the quality of environment. Sustainable development of resources and environmental management are thus the necessity of time. This component aims to advance the frontiers of knowledge regarding evolution, relevance, future prospects, paradigm shift; environmental issues; population issues; agricultural issues; rural, urban, social, regional and political issues; sustainable development and environmental management. The following topics are to be covered in this component:

- ❖ Relevance of Geography in the present context and future prospects
- ❖ Development of the geographical thought
- ❖ Trends in approaches and methodological shift
- ❖ Environment: Concept and Issues
- ❖ Anthropogenic activities and Environment
- ❖ Climate change and environment
- ❖ Dynamics of Sustainable Environment
- ❖ Environmental Management
- ❖ Economics of Environment
- ❖ Environmental Impact Assessment
- ❖ Interface between environment, population and development

- ❖ Food Security and sustainable agriculture
- ❖ Rural and urban environmental management and development strategies
- ❖ Water crisis and quality of water
- ❖ Emerging social issues: Ageing, Gender inequality and health
- ❖ Regional development and planning issues
- ❖ Disaster management

### **Component B:           Tools in Geography**

This component is devoted to the tools which are used in geographical studies. Maps are and will continue to be the basic tools of the geographers. With the advancement in technology the conventional cartography has given way to digital cartography. Remote sensing technique by providing the synoptic view of earth's changing environment has now been recognized as one of the most powerful and important tools of present time in collecting timely, accurately and reliable data to study geographic phenomena. Remote Sensing has made the data collection easier. Aerial photographs provide information that can significantly improve the effectiveness of planning and management of resources. They are also relatively low in cost, accurate, reliable and can be obtained on desired scale. GPS has enabled to get exact location and GIS has provided large scope for searching explanation. GIS techniques are playing an increasing role in facilitating integration of multi-layer spatial information with statistical attribute data to arrive at alternate developmental scenarios. The component aims to get acquainted the participants with the techniques used for the geographical analysis. The topics to be covered under this component include:

- ❖ Overview to Remote Sensing
- ❖ Overview to Photogrammetry
- ❖ Overview to GIS
- ❖ Overview to Cartography
- ❖ Statistical techniques in Geography

### **Component C:           Application of tools**

The availability of a variety of repetitively remotely sensed data opened a panorama for the applications to study, monitor and map the features of current national, regional and local importance. Conventional surveying methods are now being replaced by GPS survey. GPS provides accurate measurement and positioning data for inventories and geographic information systems (GIS). The availability of GIS softwares in public domain has made the task of the geographers easier in facilitating management, analyzing, modeling, representing and displaying of georeferenced data to solve complex problems regarding planning and management of resources. Geographers are also interested in using complex statistical techniques to handle and interpret large volume of data in order to arrive at the scientific conclusion. The aim of this component is to make familiar with the application of tools. The following topics are to be covered under this component:

- ❖ Application of Remote Sensing and GIS in urban studies
- ❖ Application of Remote Sensing and GIS in agriculture and soil
- ❖ Application of Remote Sensing and GIS in water resource management

- ❖ Application of Remote Sensing and GIS in environmental management
- ❖ Application of GPS in surveying and positioning
- ❖ Use of SPSS for analyzing geographical data

Besides these components, the participants will be trained in the formulation of research proposal and writing of book review. They will also be given exposure to seminar presentation.

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